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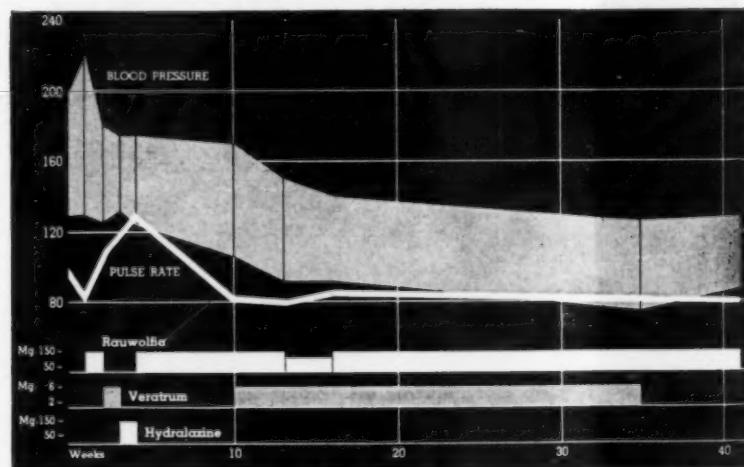
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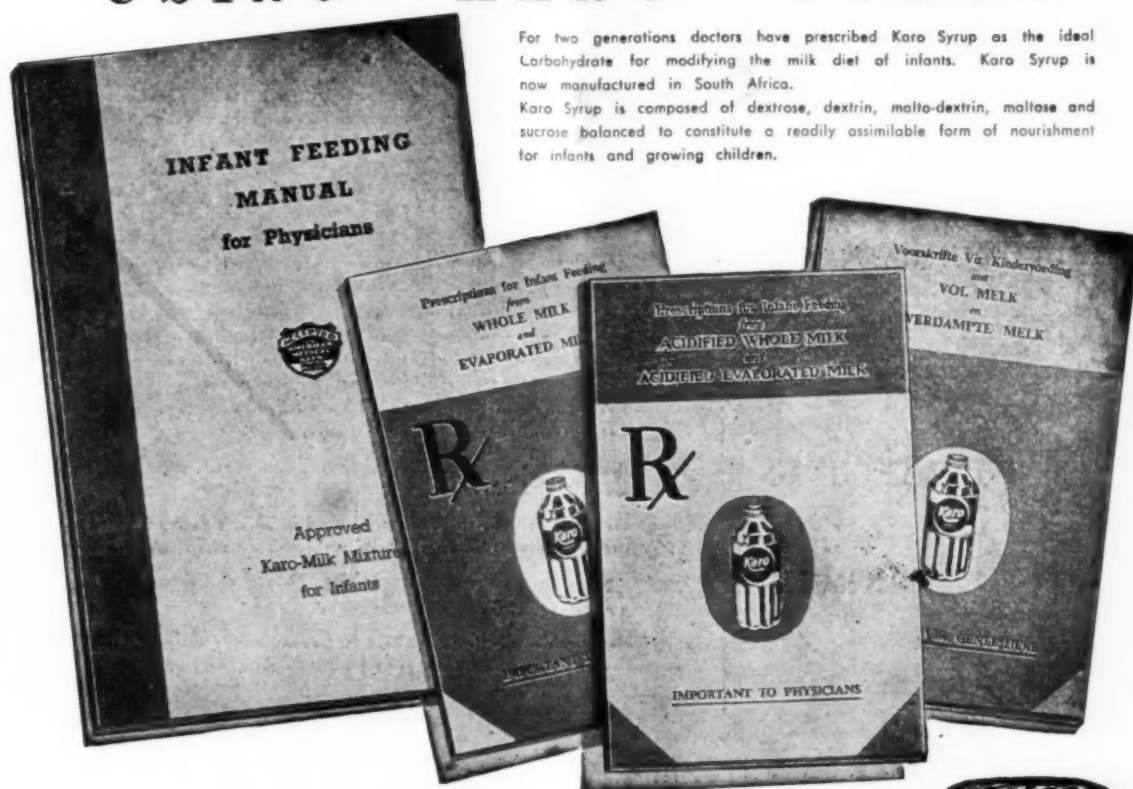
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POSSIBILITIES OF SEX REVERSAL

RONALD SINGER

Department of Anatomy, University of Cape Town

During the past few months at least 2 cases of so-called reversal of sex have been given wide publicity in the daily newspapers. Sex sensationalism often grips the public imagination, so that, when 2 adult 'males' become transformed into 'females', the one with the aid of plastic surgery and hormones, many members of the lay public became puzzled, and even so far misled as to believe that anyone can be 'changed' into the opposite sex at any time if he or she so desires. Many members of the medical profession were cross-questioned by patients or non-medical friends as to these possibilities, and even some of our colleagues, partially confused by the glibly dogmatic and semi-scientific press accounts, began to wonder whether change of sex was not after all possible, especially as in the one case the apparent 'male' was reputed to have produced 2 children by a former (now divorced) wife before 'changing' into a female. These doubts must be dispelled. Sex reversal *cannot* occur in any sexually mature individual in whom a single 'set' of sex organs are completely developed.

Sex, in man and all other organisms with a similar chromosomal mechanism (i.e. XX-XY), is determined at the moment of fertilization and depends upon whether an X- or a Y-sperm unites with the egg (which contains an X-chromosome). A zygote of either XX or XY constitution results and transforms itself, within a few weeks of fertilization, into an embryo which, morphologically, is neutral. It possesses a gonad with a cortex characteristic of an ovary and an internal mass or medulla characteristic of a testis, and it also has both Mullerian and Wolffian ducts and an indeterminate external urogenital tubercle and sinus. Before the 5th month of intra-uterine life, this 'neutral state' becomes transformed and a set of sex organs develops depending upon whether the embryo is XX (female) or XY (male), while the

structures of the opposite sex degenerate and atrophy or disappear. In the great majority of embryos, the XX-XY mechanism of genetic sex determination results successfully in the formation of one or other sex. Occasionally however (1 in 1000 embryos—Young, 1937) a breakdown of this severe differentiation may occur and an individual is formed who possesses more or less well-developed traits of both sexes. There are a great variety of human intersexual types (hermaphrodites). In these people a single gonad may contain ovarian and testicular parts (ovotestis), and sometimes the gonads on opposite sides of the body are not alike. The sex ducts are incompletely formed—only male or only female or parts of both may be found in one individual. Externally, they may be predominantly female, or predominantly male in appearance, or they may represent mixtures of the two sexes; though male characteristics predominate in 75% of cases. In no case are they provided with 2 complete functional systems of opposite sex; sometimes one system is sufficiently well developed that it can function, but usually intersexes are sterile.

Thus the internal and external genitalia are fully fashioned early in development, whereafter all embryonic plasticity and sensitivity is lost to any stimulus which, had it been exerted before full differentiation, might have guided (or re-directed) their differentiation. When sexual dimorphism involves a differential mode of development of one single set of structures, e.g., the urogenital sinus and tubercle, then once it has evolved to its ultimate form, no 'reversal' can occur, i.e., no scrotum or penis can become changed into vulva or clitoris. All adult humans in whom sex reversal is said to take place must therefore exhibit one or other form of intersex. True hermaphroditism, i.e. possession of both testis and ovary in one individual, is extremely

rare, but if present they are not functional. Consequently, it is highly improbable that a 'male' who reverts to a 'female' will have had any progeny.

Secondary sex differences between men and women, apart from the primary internal and external ones, develop during puberty, i.e., the voice, general development of pelvic region, hair growth, breast development, etc. These secondary characters are brought about by sex hormones. Sex differentiation constitutes a very involved series of processes, and sex organization in the embryo is best studied on an experimental animal, particularly the marsupial opossum, because of the immature condition in which the young are born and their relatively long residence in the mother's pouch, where they can readily be observed. Some parts of the embryonic urogenital system pass through 3 phases in their relation to hormones: an early 'somatic' phase in which hormones are apparently not concerned (but in which genetic factors are acting), an intermediate 'humoral' phase in which hormones and genotype collaborate in morphogenesis, and a final period in which hormones no longer exert a morphogenetic effect, but continue, nevertheless, to influence growth and functional state. For certain other structures (prostate, vagina) 'critical periods' exist (experimentally) during which presence or complete absence may be determined by the type of hormone administered (Burns, 1952). Thus experimentally one can alter sex almost at will by wise usage of the sex hormones at certain specific times in embryonic development wherein they can exert either stimulatory or inhibitory effects. Sex reversal among the lower animals may even occur freely in the adult, e.g., in viviparous teleost fish (*Xiphophorus helleri*) 50% of the fish population pass through a female stage and later proceed to a male type of sex differentiation.

Everyone is familiar with the freemartin in cattle. In other vertebrates and man, varying degrees of intersexuality are encountered. In addition to the types described above, *false hermaphroditism* may occur, in which condition the gonads are definitely of one sex only, though they may be poorly developed. The external genitalia may be so ill-differentiated that designation of sex is impossible without an examination of the internal organs (by laparotomy). Not infrequently the external genitals are more strongly suggestive of the sex opposite to that exhibited by the internal organs. Some of these individuals 'change' or 'progress' to the opposite sex, though this is uncommon. What the stimulus is which determines the stage or timing of the 'reversal' is difficult to state: the individuals are probably genetic females and the female-determining factors are relatively slowly elaborating. In a few, gradual or sudden hormonal imbalance, which may be due to many factors, including disease-processes (e.g. in the pituitary, adrenal or ovary), contribute important causes of reversal in the adult state.

In conclusion, it must be emphasized that in normal 'unisexual' adults sex cannot be completely reversed even by drastic pathological conditions or by the administration of sex hormones in any massive dosages. Nor can any surgical procedure effect reversal in a normal individual.

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ABSTRACTS : UITTREKSELS

S. S. Ambrose & W. W. Taylor (1953): *A Study of the Etiology, Epidemiology, and Therapeutics of Nongonococcal Urethritis*. Amer. J. Syph., 37, 501.

This is the result of a study initiated by the Bureau of Medicine and Surgery of the United States Navy at Camp Lejeune, N. Carolina.

Forty-five cases of non-specific urethritis were closely studied and the following impressions made:

1. Non-gonococcal urethritis is a disease of sexually active people. It has not been proved to be venereal in origin, and should not be so classified.

2. A specific pathological agent has not been found.

3. Known forms of the gonococcus play no pathological role in this disease.

4. The associated prostatic inflammation is probably the most important component of the syndrome.

5. Terramycin is the most effective form of therapy available.

They found no abacterial urethral exudate, but on culture found gram-positive cocci in 36%, corynebacteria in 23%, gram-negative bacilli in 24%, gram-positive bacilli in 9%, streptococci in 4%, and fungi in 3%.

The number of cases who had recently experienced an infection of the upper respiratory tract which could conceivably have acted as a focus was 40%. When examined more closely a possible source of infection was found in the upper respiratory tract in 66% of the group.

While terramycin cleared the urethral discharge there was

no prompt marked effect of this therapy on the prostatic inflammation.

F.W.F.P.

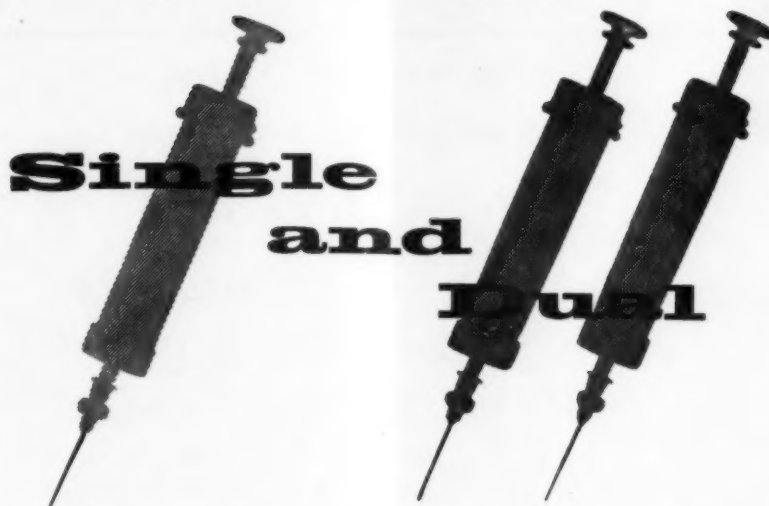
Winckel, C. W. F. (1953): *Treatment of Malaria Patients*. Ned. T. Geneesk., 97, 1912.

In a refresher course the author summarizes the treatment of malaria patients in the Netherlands, Indonesia and the Dutch West Indies. For treatment of the acute attack of benign tertian and quartan malaria in adults the oral administration of 1 g. of quinine daily suffices; this dose should be given as long as the fever lasts and for 5 days after. Young children and those who are unable to swallow tablets, may be treated with the tasteless quinine ethylcarbonate, the children taking 100 mg. daily for each year of their age.

For anti-relapse treatment the author advocates a combination of quinine and one of the 8-aminoquinolines, preferably 1 g. quinine and 15 mg. primaquine daily, for 10 to 14 days.

In subtertian malaria the acute attack is treated in the same way as in benign tertian malaria, but in pernicious cases a slow initial intravenous injection of 0.5 gm. of quinine may be required to save the life of the patient.

No anti-relapse treatment is required in subtertian (falciparum) malaria. If the blood film shows crescents these may be destroyed by giving quinine combined with primaquine. However, as long as there is fever only quinine should be administered and when the temperature has become normal treatment with quinine plus primaquine should be instituted.



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South African Medical Journal

Suid-Afrikaanse Tydskrif vir Geneeskunde

VAN DIE REDAKSIE

IOONRUILING

Op die gebied van geneeskunde, landbou, biologie en chemie is daar in onlangse jare heelwat gebruik gemaak van ionruiling. Kennis van hierdie vak dateer minstens tot die middel van die laaste eeu maar tot onlangs het dit min belangstelling uitgelok behalwe op die gebied van grond- en watersuiwering. Die introduksie van geskikte, sintetiese harpui met 'n hoë kapasiteit en stabiliteit bied die sleutel aan tot die oplossing van menige 'n probleem i.v.m. ionruiling.

Hulde word aan twee Engelse landbouchemici, Thompson en Way, gebring vir die eerste sistematiese studie wat i.v.m. ionruiling gemaak is. Van 1850 tot 1854 het hulle verslae oor die absorberende hoedanigheid van grond gepubliseer maar proefneming is al voor dié tyd gemaak i.v.m. die verwydering van sout uit water. Die gebruik van soliede absorbeermiddels soos sand in die behandeling van water is amper so oud soos die beskawing self. Die gedagte word selfs uitgespreek dat Moses in sy omwandeling deur die woestyn die bitter waters soet en drinkbaar gemaak het deur die wisselwerking van die boom wat hy gebruik het (ge-oksideerde sellulose) en die bitter elektroliete.

Die afgelope eeu het baie hydraes opgelewer oor die aard van ionruilingsverskynsels van klei, grond en ander silikate. Die moderne tydperk het in 1935 aangebreek toe Adams en Holmes die ontdekking gemaak het dat sekere sintetiese harpui se ione kon omruil. Hul het bewys dat kationuitruilers as 'n sulfoniese suurharpui vervaardig kon word en dat die poliamien-tipe harpui anioonruilingshoedanighede besit. Sedert 1940 het dit moontlik geword om sintetiese harpui se vir ionruiling te vervaardig met spesifieke fisiese en chemiese eienskappe. Dié harpui se bevat suur- of basiese groepe in 'n makro-molekulêre netwerk. Hierdie funksionele groepe ruil ione uit met ander ione in 'n omliggende oplossing; dit wil sê hul kan elektroliete uit 'n oplossing verwyder. Kationuitruilers bevat suurgroepe soos $-\text{SO}_3\text{H}$, $-\text{COOH}$, of fenool $-\text{OH}$ wat met stowwe kan verbind wat 'n positiewe ioonlading besit; hierdie tipe hars kan gebruik word om 'n waterstofioon uit te ruil vir 'n kation in 'n omliggende oplossing, of as 'n sout om 'n kation te vervang met 'n kation uit 'n suurgroep. Op dergelyke wyse word basiese groepe in anioonuitruilingsharpui se gevind.

Harpui se word as afskeiers, herstellere, ioniseerders en katalisators gebruik asook om water vir nywerheidsdoeleindes te versag. Gedurende Wêreldoorlog II is

EDITORIAL

ION EXCHANGE

Ion exchange has found many applications in recent years in many fields in agriculture, biology, medicine and chemistry. Knowledge of this subject dates back at least to the middle of the last century but until a few years ago little interest was shown in the phenomenon outside the studies on soil and water purification. The introduction of suitable synthetic high-capacity and stable ion-exchange resins has permitted an approach to many problems.

The first systematic study of the phenomenon of ion exchange is attributed to two English agricultural chemists, Thompson and Way, who published accounts from 1850 to 1854 on the absorbent power of soils, although there had been earlier experiments on the removal of salts from water. The treatment of waters by solid absorbents like sand is almost as old as civilization itself. It has even been suggested that Moses in his journey through the wilderness made the bitter waters sweet and potable by the tree he used (oxidized cellulose) entering into an exchange reaction with the bitter electrolytes.

Many contributions have been made over the last 100 years to the nature of ion-exchange phenomena in clays, soils, and other silicates. The modern era dates from 1935, when Adams and Holmes observed that certain synthetic resins could exchange ions. They showed that cation exchangers could be made as a sulphonic-acid resin, and that the polyamine-type resins had anion-exchange properties. Since 1940 it has become possible to synthesize exchange resins with physical and chemical properties for specific purposes. The resins contain acidic or basic groups held in a macromolecular network. These functional groups can exchange ions for other ions in a surrounding solution; that is to say, they can remove electrolytes from solution. Cation exchangers have acid groups such as $-\text{SO}_3\text{H}$, $-\text{COOH}$, or phenolic $-\text{OH}$ that can combine with substances having a positive ionic charge; these resins can be used as acids to exchange a hydrogen ion for a cation from the surrounding solution, or as a salt to replace a cation by another cation in the acid group. In a similar manner the anion exchange-resins contain basic groups.

The resins are being used for separations, recoveries,

spesiaal-vervaardigde saamgeperste briquettes ontwerp om onder noodtoestande drinkwater uit seewater te verkry. Dit blyk asof daar 'n groot toekoms vir ionruiling voorlê op die gebied van artsensykunde, voedsel-, suiker- en ander nywerhede. Die afskeiding, suiwering en terugwen van baie chemikalieë en geneeskundige middels word tot minder of groter mate deur ionruiling aangehelp. Geneeshere is tans terdê van die terapeutiese gebruik van hierdie absorbeermiddels bewus. Anioonuitruilingsmiddels word as adjunkmaatreëls by die gewone behandeling van peptiese seer gebruik; hul verbind pepsien en suur, wat later in die derm vrygestel word, sonder om vitamines en minerale te verwyder. Gebruik word van katioonuitruilingsharpuise gemaak in die behandeling van pasiënte met hipertensiewe hart-bloedvatsiekte, om diurese te bewerkstellig in pasiënte met hartverlamming, met die behandeling van buikwatersug wat aan lewer- en skroepeling te wyte is en met nefrose; hul moet versigtig gebruik word, want komplikasies mag met hierdie terapie intree.

VERWYSINGS

- Kunin, R. en Myers, R. J. (1951): *Ion Exchange Resins*, Londen: Chapman and Hall Ltd.
The Extra Pharmacopoeia (1952): Vol. I. Londen: The Pharmaceutical Press.

de-ionization and catalysis, as well as for water softening on an industrial scale. During World War II specially-made compact briquettes were devised for the emergency preparation of drinking water from sea water. There appears to be a big future for ion exchange in the sugar industry, and in the pharmaceutical, food-processing and other industries. Thus the separation, purification and recovery of many chemicals and drugs has been aided by ion exchange in varying degrees. Physicians are now well aware of the use of these absorbents as therapeutic agents. Anion exchangers have been used in the treatment of peptic ulcer as adjunct to the usual regime; they bind acid and pepsin, which are released later in the intestine, without removing minerals and vitamins. Cation-exchange resins are being used for patients with hypertensive cardiovascular disease, and to potentiate diuresis in cardiac failure, in ascites due to cirrhosis of the liver, and in nephrosis; they must be used with care, for complications may occur during therapy.

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WARNING ON ANTIBIOTICS

Antibiotics have opened up a new field in the science of therapeutics. A bewildering flow of these preparations has poured from the pharmaceutical houses into general use in the last decade. Vexing problems concerning indications, delayed toxicity and inter-antibiotic resistance are growing in magnitude, and treatment with this family of drugs is fast becoming as precise a matter as anti-coagulant therapy in thrombotic conditions, and should be treated with the same degree of respect. The practitioner may well be influenced in his use of the newer preparations by extraneous considerations, not least of which are high-pressure advertising campaigns and the ever-increasing drug-consciousness of the general public, credit for which can in turn be laid at the feet of certain popular magazines.

Be that as it may, the antibiotics have become indispensable to the general practitioner, and the warning sounded nowadays is against their misuse; more particularly the practice of determining their antibacterial efficacy by trial-and-error administration to the patient. Ideally, no antibiotic should ever be administered without prior testing of the sensitivity to it of the organisms that are to be attacked; but practical considerations make this a counsel of perfection. In this country, where distances are great and laboratory facilities not readily available, it is common practice to administer penicillin, at any rate, without thought in the first instance, of bacterial sensitivity. It is this practice which has probably been responsible for the formidable wall of bacterial resistance, which is greatest where antibiotic drugs are most easily available; recent American reports¹ mention 36% (Mayo Clinic) and 61%

(Seattle) as the proportion of hospital strains resistant to certain antibiotics. If we could be assured of an endless stream of new products, this acquired resistance would be unimportant, for there would always be a more effective weapon just over the rise; but will this always be so, and can practitioners afford to trade upon it?

Most authorities think not; and two totally unrelated official warnings have recently been issued (see page 344 of this issue) on the use of chloramphenicol (chloromycetin—Parke Davis) and erythromycin (ilotycin—Lilly; erythrocin—Abbott). Both notes attempt to define the legitimate uses of these preparations.

Because of its toxicity, chloramphenicol should be used only after the causal organisms have been proved resistant to other antibiotic drugs. In cases of typhoid fever, where chloramphenicol is the drug *par excellence* in the acute stages, specimens of stool cultures and blood-cultures should be obtained before treatment commences, for the drug so rapidly cures the early case that otherwise the diagnosis may never be confirmed bacteriologically, and the number of unknown typhoid carriers may thereby be increased. For among its drawbacks is the fact that chloramphenicol has no effect upon the carrier-state; moreover, its administration in typhoid fever interferes with the production of antibodies, so that a retrospective serological diagnosis may be impossible. From a public-health viewpoint routine bacteriological follow-up is essential, in order to ensure that the patient does not remain a silent carrier.

Erythromycin has an advantage over aureomycin in that coliform organisms are insensitive to it, and the

distressing enteritis accompanying aureomycin does not therefore occur with it. But the ease and rapidity with which resistance is acquired to erythromycin surpasses anything yet seen, and this appears to be the prime cause of its failure in non-responding infections. The following recent assessment from the Mayo Clinic² was reprinted in the *British Medical Journal*:

'We wish to emphasize that we do not advocate use of erythromycin against chronic infections such as osteomyelitis, bacterial endocarditis and the like, because of the strong likelihood of provoking bacterial resistance. For the same reason we abhor the indiscriminate use of the substance, especially in those instances in which sufficient bacteriologic data are not accumulated to indicate the need for erythromycin. A strain of *M. pyogenes* (staphylococcus) carelessly made resistant to erythromycin in one patient may conceivably provide the basis for lethal cross-infection of another patient. We are especially fearful that ointments which contain erythromycin may rapidly increase the incidence of resistant strains of bacteria.'

The position then is briefly this: apart from the

specific use of chloramphenicol in typhoid fever, neither this drug nor erythromycin should ever be used without prior laboratory intelligence of proven bacterial insensitivity of the causal organisms to the other antibiotics.

Practitioners who take pride in their work will find a challenge in these facts. The extravagant misuse of the more expensive antibiotics taken in inadequate doses, or for trivial conditions, or for the sake of novelty, or to obtain rapid symptomatic relief, or to avoid injections; this practice is to be condemned. Antibiotic treatment should never be a shot-in-the-dark affair; if a condition is sufficiently serious to warrant treatment with a highly-priced preparation, the medical attendant, before embarking upon the treatment, is morally bound to acquaint himself with the efficacy and toxicity of the drug, and its specificity for the causal organisms.

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THE MANAGEMENT OF THE DIABETIC PATIENT*

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The incidence of diabetes mellitus is on the increase. It is estimated that one in every 100 persons of the population suffers from this disease.¹ For this reason, it is incumbent upon every medical practitioner to be fully acquainted with the management of the diabetic patient.

There are various reasons for treating a diabetic patient,² namely:

- (1) The prevention of death from coma.
- (2) The relief of the various symptoms.
- (3) The maintenance of adequate nutrition.
- (4) The prevention of further deterioration in pancreatic function.
- (5) The prevention, postponement or relief of complications.

Most clinicians assert that control of coma, relief of symptoms, and maintenance of normal nutrition, do not constitute adequate treatment. These criteria can often be achieved in patients in whom hyperglycaemia and glycosuria are persistent. It is claimed that normoglycaemia should be the ultimate goal in every patient, as this is the only means we have of protecting pancreatic function and preventing complications.

The literature dealing with this controversial problem is extensive.

The Effect of Hyperglycaemia on Pancreatic Function

Allen³ was able to produce permanent diabetes in partially-pancreatectomized animals by feeding with a

high carbohydrate diet. Lukens⁴ caused permanent diabetes in cats by continuous intraperitoneal injection of glucose, while Jacobs and Colwell⁵ were able to produce massive pancreatic haemorrhage in dogs by continuous intravenous infusion of glucose.

Brusch⁶ has shown that, if diabetic children when first treated are given large doses of insulin to keep them hypoglycaemic, eventual requirements for insulin are reduced to one-third of the dosage of a comparable group of patients. This suggests that in man hypoglycaemia may conserve the insulinogenic function of the pancreas, and one may be tempted to assume that the opposite condition of hyperglycaemia may have a deleterious effect. However, John⁷ followed up patients with persistent hyperglycaemia for 14-37 years and was unable to confirm this assumption.

The Relationship between Hyperglycaemia and the Complications of Diabetes

It is difficult to reproduce the complications of diabetes experimentally. Cataract of the eye has been produced by hyperglycaemia in the dog⁸ and rat,⁹ and kidney lesions have been reported in experimental diabetes.¹⁰

In man, complications of the vascular system, eyes and kidneys occur in mild as well as severe cases. They may also appear in the well-controlled case. The duration of the diabetes is the vital factor. Some workers have claimed that there is no relationship between the adequacy of control and the incidence of complications. However, Joslin, Root, White and Marble¹ are convinced,

* Address delivered at the Conference on Endocrinology held at the Medical School, Witwatersrand University, Johannesburg, May 1953.

from their experience with 40,000 diabetics, that the complications can be prevented or delayed by careful control of the blood sugar. They state that they have never seen a poorly-controlled diabetic who is free from complications after 25 years. Hirsch¹¹ has shown a relationship between hyperglycaemia and hyperlipaemia and suggests that this may be the mechanism of production of premature vascular degeneration in diabetics.

The evidence is controversial and we have no conclusive proof that hyperglycaemia is harmful. At the same time, we have no proof that it is harmless. It may not be the sole factor responsible for the complications but it may well be one factor. Therefore, until the contrary is proved we should strive for the most rigid control of glycosuria that is possible and compatible with a reasonably simple programme of treatment and the avoidance of insulin reactions.

Criteria for Adequate Control of Diabetes

When one studies the methods of treatment in different clinics throughout the world, one is impressed by the diversity of opinion. There are now two main schools of thought—the chemical and the clinical. The chemical school is led by Joslin and his followers, who strive to attain persistent normoglycaemia and sugar-free urine. Tolstoi¹² is a proponent of the clinical school, which ignores the degree of hyperglycaemia and glycosuria. The objective of this school is to assure that the patient feels well, maintains a normal weight and exhibits no ketosis. When one analyses the contentions one concludes that the differences are somewhat theoretical, and that there is no great variation in the treatment of the individual patient. The discrepancies arise from an attempt to generalize over the treatment of all diabetic patients. If the patients are divided into the 4 following clinical groups¹³ uniformity of approach becomes evident:

Adult Patients

Group A patients are over the age of 35 years and are often menopausal. They are usually obese and may present with complications of diabetes. Symptoms are not prominent, ketosis is rare, and they are well controlled by dietary restriction.

Group B patients are also over the age of 35 years. They may or may not be obese. Symptoms are present. They require insulin as they cannot be controlled by diet.

Juvenile Patients

Group C patients are usually under the age of 25 years. They are thin and have obvious symptoms of diabetes. Ketosis is inevitable and insulin is, therefore, essential.

Group D patients have been termed brittle diabetics. They are similar to the patients in Group C but tend to fluctuate rapidly between hypo- and hyperglycaemia.

Of diabetic patients 50% fall into Group A and can be controlled by diet only. Experience has shown that it is possible to achieve normoglycaemia and aglycosuria in this group.

The remaining 50% will require insulin. Of these about 75% require less than 40 units daily, the remainder more.¹⁴ It may be possible to achieve persistent sugar-free urines in patients of Group B, but this is extremely difficult and even dangerous in the group of young diabetics in Groups C and D. The limiting factor is hypoglycaemia, which frequently occurs in these patients. If only one injection is given daily it is difficult to avoid glycosuria at some time during the day. The Joslin

school now countenances in this group a loss of 15% of the carbohydrate intake or 20 gm. of glucose daily.

The following are the author's criteria for adequate control of a diabetic patient:

1. Absence of ketosis.
2. Feeling of well-being and absence of symptoms
3. Normal development mentally, physically and sexually
4. Maintenance of normal weight
5. Patient to be psychologically and sociologically normal, i.e. able to lead a normal life at school, work and play
6. Reduction of glycosuria to the lowest level that is compatible with the absence of hypoglycaemia

If these criteria are observed, little practical variation will be found between the methods of control which are advocated by various clinicians.

DETAILS OF DIABETIC STABILIZATION

There are 3 important variable factors which influence the control of the diabetic patient, namely diet, insulin and exercise. These will be discussed in some detail.

1. Diet

Diet still plays an important role in the treatment of all diabetic patients, though more liberal diets are now used.

Obesity is the enemy of every diabetic patient and must be avoided at all costs. Such patients are undoubtedly healthier when their weight approximates to the average normal for their age and height.

Although it is generally agreed that meticulous weighing of all food is unnecessary, the importance of diet should not be minimized and the patient should appreciate its place in the treatment of his illness. The use of the printed diet-sheet is strongly deprecated, as caloric requirements vary with patients in different walks of life.

In the group of elderly obese diabetics, caloric control of diet produces excellent results. On a reducing diet of 1200 to 1600 calories, symptoms disappear rapidly and these patients remain well and sugar-free indefinitely. It should be mentioned, however, that such reducing diets are expensive and cost a minimum of £7 10s. monthly at present prices.

In the young diabetic patient who is being treated with insulin, there is no indication for drastic restriction of food or an unbalanced diet. These patients require an adequate balanced diet which will maintain normal nutrition. It is wise to exclude pure glucose foods such as sugar, syrup, sweets and jam, which are the cause of marked changes in caloric intake and profound fluctuations of blood sugar. The caloric intake should not vary from day to day, for this may complicate the control with insulin. In addition, the carbohydrate foods should be spaced throughout the 24 hours to coincide with the times of maximal action of insulin. Joslin considers that the diet should be low in calories and carbohydrate, and the average carbohydrate-content of his recommended diets seldom exceeds 150–200 gms. In contrast, the Tolstoi school allows a free selection of diet with no restriction whatsoever. The most practical method is to prescribe a balanced diet which is constant from day to day. This should satisfy the patient's requirements and maintain normal nutrition.

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2. Insulin

This life-saving hormone was discovered by Banting and Best in 1922 and has given a new lease of life to millions of diabetics. At least 50% of diabetic patients require insulin for adequate control.

There are 4 preparations of insulin in common use.

(a) 'Regular', 'Clear', 'Unmodified' or 'Soluble' Insulin. This starts acting in 1 hour, maximal action occurs in 3 hours and its duration of activity is 6-8 hours. Its main use is in emergencies such as coma, infections and operations, and in patients whose dietary intake is variable. It must be injected at least 2-3 times daily to achieve efficient control.

(b) Protamine-Zinc Insulin. This resulted from the discovery by Hagedorn in 1936 that the addition of protamine from the sperm of the rainbow trout prolonged the absorption and action of insulin. Later zinc was added, which prolonged the action still more. It contains 1.25 mg. of protamine per 100 units of insulin. The action starts in 6-8 hours and is maximal at 24 hours, and its total duration is about 72 hours. The main disadvantage is its inability to control postprandial glycosuria and its tendency to cause nocturnal hypoglycaemia. It is most valuable in the treatment of mild diabetics and may also be combined with soluble insulin. It is unwise to use more than 40 units of protamine zinc insulin as a single dose.

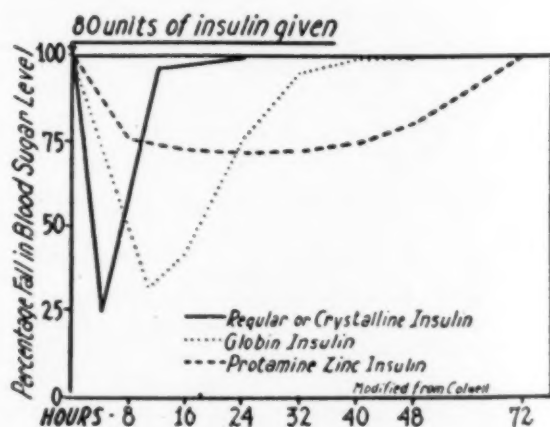


Fig. 1. A Comparison of the Actions of the Different Types of Insulin (modified from Colwell¹⁴).

(c) Globin Insulin. This is prepared by mixing the globin fraction of beef haemoglobin with insulin. It starts acting in 1-2 hours, its maximal action is in 6-12 hours and its total duration is about 24 hours. Hypoglycaemia tends to occur at 4 p.m. and nocturnal glycosuria is frequent. For this reason it is not used extensively.

(d) N.P.H. 50 Insulin. This is a new preparation of insulin and contains 0.5 mg. of protamine per 100 units of insulin. It starts acting in 2 hours, its maximal action is in 10-20 hours and its duration is similar to a 2 : 1 mixture of soluble and protamine-zinc insulin. It

achieves the best control that can be ensured by a single injection. As the action is slow between breakfast and lunch, it is advisable to reduce the carbohydrate at breakfast and transfer it to lunch, afternoon and evening, at which times hypoglycaemia tends to occur. An added advantage is that soluble insulin retains its rapid action when mixed with N.P.H. insulin.

Mixtures of Insulin

Mixtures of soluble and protamine zinc insulin in the same syringe give favourable results and their efficacy has been carefully studied by Colwell¹⁵ (Fig. 2). A 1 : 1 mixture has an activity similar to that of protamine-zinc insulin alone. The 2 : 1 mixture of soluble and protamine-zinc insulin has a more rapid effect and a much more intense activity. For this reason, it is used most extensively. The 3 : 1 mixture simulates the action of globin insulin.

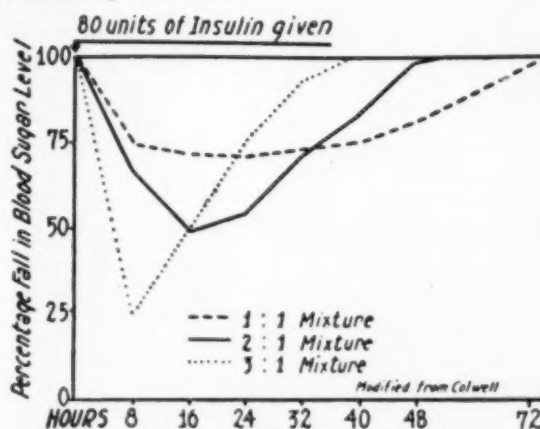


Fig. 2. The Action of Insulin Mixtures (modified from Colwell¹⁵).

Diabetic patients must learn to be independent. They should give their own injections and should have a working knowledge of the action of insulin and its possible dangers. Many experience difficulty in measuring their insulin dosage. They can learn to do so by bringing their syringe and insulin to the doctor at every visit for supervision. They should carry an identification card stating that they are diabetic and are being treated with insulin; also that they should be given sugar if they feel faint or ill. As a further precaution against hypoglycaemia the patient should always carry a packet containing lumps of sugar. It is impossible to generalize about the daily insulin requirements of all patients. About 36% of diabetic patients require less than 40 units of insulin. Stabilization may be achieved by 2 doses of soluble, a single dose of protamine-zinc or N.P.H. insulin, or a mixture of depot and soluble insulin.

In the 14% of patients who require more than 40 units of insulin, the kind of insulin which best suits each patient must be found by careful study of his requirements. This may consist of N.P.H. alone or a mixture of N.P.H. and soluble, or of protamine-zinc and soluble insulin. Some difficult cases may require an additional dose of soluble insulin before the evening meal.

The actual dosage is not constant for all patients and can be assessed only after careful observation of the individual patient.

3. Exercise

Exercise is the third variable factor in diabetic stabilization as it causes a reduction in the level of blood sugar. Thus a patient requires more insulin when confined to bed. On returning to an active life the requirements will diminish and the dose should therefore be reduced on discharge from hospital. All diabetic subjects should be encouraged to take daily exercise. Intensive activity may, however, lead to hypoglycaemia and the patient should be warned to consume additional carbohydrate before and during intense activity.

COMMON DIABETIC EMERGENCIES

1. Ketosis

Ketosis portends danger in the diabetic patient. If left untreated it will inevitably progress to coma and death. Every case must be treated as an emergency. The condition must be dispersed as rapidly as possible.

There are various stages of ketosis, varying from the mild case with few symptoms to the patient in profound shock and coma. The intensity of treatment will depend on the severity and duration of the ketosis.

(a) *In the mild case*, where fluids can be taken by mouth, Lawrence's emergency regime is recommended.¹⁶ The patient is given 40 g. of glucose 4-hourly by mouth. An initial dose of 40 units of insulin is given and the subsequent dose should be varied according to the 4-hourly sugar and ketone levels.

(b) *In the more severe case* tests should be carried out at 2-hourly intervals so that insulin dosage can be assessed more accurately. Soluble or quick-acting insulin is used in all these cases.

(c) *When the condition has progressed to coma* a grave emergency exists. Tests may reveal very high blood-sugar levels. In Harwood's¹⁷ series of severely ketotic patients, the highest initial blood sugar was 1280 mg. per 100 c.c., and the average blood sugar 829 mg. Profound metabolic derangements occur during diabetic coma, as was conclusively demonstrated by Atchley¹⁸ in his classical study of the effects of insulin withdrawal in young volunteer diabetic subjects. The clinician must take cognizance of these if rational therapy is to be instituted. A list of the notable functional derangements follows (Guest¹⁹):

1. Insulin insufficiency or ineffectiveness
2. Hyperglycaemia, glycosuria and diuresis
3. Increased hepatic ketogenesis, ketonaemia and ketonuria
4. Metabolic acidosis—decreased bicarbonate and pH of body fluids—hyperpnoea
5. Increased cellular catabolism. Liberation of inorganic phosphates, potassium and nitrogen
6. Increased urinary excretion of electrolytes—decreased intra- and extracellular concentrations
7. Dehydration due to (a) loss of electrolytes, (b) glucose diuresis, (c) fluid-loss through lungs, with hyperpnoea
8. Diminished blood volume, falling blood pressure, shock, anuria
9. Tissue damage from (a) increased cellular catabolism (b) anoxia (c) toxic agents
10. Coma—results from ketonaemia, acidosis and cerebral anoxia

If at all possible, all cases of coma should be treated

in hospital, but valuable time may be lost while arranging for admission. Treatment should be started in the patient's home. The patient should not be left unattended until he is out of danger and able to take food by mouth.

(a) *Insulin Dosage in Coma.* The initial dose of insulin should be about 100 units, half of which should be given intravenously. Root²⁰ gives an additional 200 units if the blood sugar is over 600 mg.%, plus an additional 300 units if the blood sugar is over 1,000 mg.%. The dose should be proportionately less in cases of recent onset of diabetes or in young children. The massive dosage schedule recommended by Micks²¹ is highly dangerous and should not be advised as a routine procedure. The state of the patient should be reassessed every 1–2 hours. If the blood sugar rises, the dosage is increased, if unchanged the initial dose is repeated and if it falls the dose is reduced. Harwood¹⁷ found that the average dose required to save a severely ketotic patient was about 1,280 units in the first 24 hours. A case of Sheppard's²² was treated with 56,000 units in 24 hours.

(b) *Correction of Fluid and Electrolyte Balance.* These patients are severely dehydrated and require copious fluid-replacement. It is estimated that the average case requires about 6000 cc. of fluid and about 26 g. of sodium chloride. Most workers do not give glucose in the first 3–4 hours. On admission, the patient is given intravenous normal saline, and may require about 3 litres in the first 3–4 hours. The first 2 litres are given rapidly and the rest more slowly. Intravenous glucose is given from the 4th–6th hour. The routine use of alkalies is not recommended. Butler²³ uses a special solution containing 400 cc. isotonic saline solution, 550 cc. pyrogen-free distilled water, and 40 cc. molar sodium bicarbonate or lactate.

A blood transfusion may be life-saving if peripheral vascular failure is severe.

Hypopotaemia is one of the sequelae of rapid treatment of acidosis. To it have been attributed certain fatalities which have occurred after hyperglycaemia and acidosis have been adequately controlled. In the untreated case the level of potassium may be high due to dehydration and a shift from the cells. With rapid intravenous glucose therapy, rehydration occurs and potassium re-enters the cells. Thus a state of hypopotaemia may arise 12–24 hours after treatment. The symptoms are restlessness, disorientation, flaccidity, muscular weakness, rapid shallow breathing with accessory muscles and respiratory failure. Hypotension, arrhythmias, cardiac enlargement and cardiac failure may ensue. The electrocardiogram shows prolongation of the QT interval, flat or inverted T waves, and sagging of the ST segment.^{24, 25}

Indiscriminate use of potassium may be hazardous and there can be no hard and fast rule regarding its employment. It should never be given before the 4th hour nor until the circulation and urinary output are satisfactory. Orange juice and milk have a high potassium content and should be used liberally. Potassium chloride is given in 1 g. doses every 4 hours for 5 doses, starting at about the 8th hour of treatment.²⁴ If

potassium is used intravenously the solution should be given slowly and carefully. With respect to other electrolytes such as phosphate and magnesium, there is less unanimity of opinion.

It must be stressed that the treatment of diabetic coma cannot be reduced to a fixed formula for insulin, fluids and electrolytes.

As infection is often present in cases of diabetic coma, this should be anticipated. Large doses of antibiotics should be administered in every case.

Vomiting and gastric distension can be relieved by gastric lavage, and an enema may be helpful if abdominal distension is present.

2. Infections in the Diabetic Patient

It is common knowledge that any infection, particularly staphylococcal and pneumococcal, may precipitate obvious symptoms in a potential diabetic. Infection will always aggravate the diabetic state and lead to increased insulin requirements. Furthermore, the diabetic may react in an abnormal way to the infection and diagnosis may be difficult. Such a patient should be observed at 4-hourly intervals, when adequate doses of soluble insulin, fluids, glucose and saline can be ordered. Antibiotics should be used freely and any pocketed pus evacuated as rapidly as possible.

3. Surgery in the Diabetic Patient

With modern advances in anaesthesia, fluid therapy, chemotherapy, and diabetic control, surgery should not be attended by an increased mortality rate. Surgery is as safe in the well-controlled diabetic as in the non-diabetic. These patients are able to withstand major surgical procedures and their wounds heal efficiently without predisposition to infection.

The anaesthetic should be chosen carefully to avoid substances that damage the liver, increase hyperglycaemia or cause post-operative vomiting. The anaesthetic of choice is therefore local, regional or spinal anaesthesia. Of the general anaesthetic agents nitrous oxide, sodium pentothal, cyclopropane and ethylene are favoured in that order. Ether should be avoided whenever possible and chloroform never used.²⁶

Elective surgery is not undertaken until the patient has been well controlled with quick-acting insulin and adequate diet. The nutritional state must be satisfactory, and the patient free from acidosis, dehydration and glycosuria. The usual dose of soluble insulin is given on the morning of operation together with carbohydrate in liquid form or intravenously. After operation the urine is examined every 4-6 hours and insulin ordered accordingly. Fluids are given intravenously until the patient is able to drink.

The acute abdomen in the diabetic patient presents a most difficult problem. The signs and symptoms may not be classical. Diabetic acidosis may simulate an acute abdomen very closely. Moreover, an acute abdomen may precipitate a state of ketosis.

If possible, emergency operation should not be performed on a ketotic patient, as the operative risk is increased. A delay of a few hours is justified while ketosis is eliminated. If symptoms then persist, laparotomy is indicated. However, emergency surgery

should not be delayed while attempting to control the diabetes completely. In such cases one should be guided by the urgency of the surgical lesion.

4. Pregnancy

Before the discovery of insulin, diabetes was characterized by amenorrhoea and extremely low fertility. When pregnancy did occur, it was attended by very high maternal and infantile mortality. Insulin has restored fertility and greatly reduced maternal mortality, which now approximates to the rate for non-diabetic patients. The foetal and neonatal mortality rate is, however, still about 5 times the normal rate. The rates from various clinics are in the region of 30%. The difficulties which may be encountered in a diabetic pregnancy are enumerated below.²⁵

1. Maternal Diabetes

- (a) Varying insulin requirements
- (b) Morning sickness and irregular food-intake
- (c) Lowered renal threshold

2. Antepartum Maternal Abnormalities

- (a) Water-retention and oedema
- (b) Hydramnios
- (c) Toxaemia

3. Increased Tendency to Foetal Abnormalities

- (a) Spontaneous abortion and miscarriage
- (b) Foetal death in utero and stillbirth
- (c) Congenital defects
- (d) Premature maturation, gigantism

4. Increased Tendency to Partum and Post-partum Abnormalities

- (a) Difficult labour because of:
 - (i) Oversized infant
 - (ii) Abnormal presentation
- (b) Decreased neonatal survival due to:
 - (i) Unusually prolonged labour
 - (ii) Unusually traumatic labour
 - (iii) Congenital defects
 - (iv) Oedema, asthenia, respiratory difficulties, hypoglycaemia.

This list should not cause undue alarm or a pessimistic attitude. With careful treatment, most diabetic patients can attain the joy of motherhood.

These patients should be examined every 2-4 weeks for the first 6 months and every 1-2 weeks in the last trimester. It is wise for the patient to be seen by the physician and obstetrician in consultation. The diabetes must be carefully controlled by diet and insulin. Insulin requirements may increase during pregnancy. A drop in renal threshold often occurs and blood-sugar estimations may be necessary for accurate assessment.

Priscilla White²⁷ has focused attention on the hormonal abnormality that may occur in these patients. In cases with a high foetal and neonatal mortality rate she has demonstrated high gonadotrophin levels and low oestrogen and pregnandiol excretion. She claims that endocrine therapy can restore hormonal balance and prevent foetal loss. She recommends an initial dose of 5 mg. of stilboestrol and 5 mg. of progesterone. This is gradually increased until 30 mg. of each is taken daily. This treatment has not been confirmed by all workers and is not practised universally. It may be a dangerous procedure if adequate hormonal assays are not available.

Most obstetricians now favour elective Caesarean section at the 36th-37th week under spinal anaesthesia. This is carried out in order to prevent sudden death of the foetus, which is frequent, and also to avoid

prolonged labour and birth injury to the infant, which is often abnormally large.

The care of the infant must be meticulous. It should be nursed as a premature infant in an oxygen incubator. Aspiration of the air passages and stomach is frequently a life-saving measure and prevents sudden pulmonary collapse, which is a common cause of death. Frequent glucose feeds are advisable to combat hypoglycaemia which may occur in the infant.

There is no evidence that the mother's diabetic state is permanently aggravated by pregnancy.

CONCLUSION

In conclusion, I would make an earnest appeal for a more sympathetic approach to the diabetic patient. He is burdened with a disease for life and requires continuous encouragement to adapt himself to his disability. The programme of treatment should not interfere with his daily routine. Modification of the patients accustomed diet and activity are preferable to any entirely new regime. He should be encouraged to take his place with his fellow beings at work and at play, since diabetes should impose no restriction on his possible achievements. It is our duty as doctors to prevent patients from degenerating into self-centred obsessives. Furthermore, we should aim at producing happy co-operative patients who lead normal active lives and accept certain minor inconveniences with a rational contented outlook.

I am grateful to Prof. G. A. Elliott for his help and encouragement and to Mr. M. A. Shevitz for the illustrations.

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THE PRACTICE OF DELAYED SKIN-REPLACEMENT

J. B. CUTHBERT, M.A., Ph.D., F.R.C.S. ED.

From the Department of Surgery, Johannesburg Hospital, University of the Witwatersrand

The theory underlying this method of skin-replacement is the deliberate use of a prepared granulating surface rather than a freshly-excised wound as a base for receiving skin-grafts in order to circumvent certain well-known difficulties.

The method first suggested itself in a long-term follow up of burn cases, when it was obvious that split skin-grafts applied to early granulating surfaces were entirely satisfactory as regards suppleness, stability and prevention of deformity.

When the grafts had been applied to more chronic granulating wounds with a good deal of basal fibrosis the picture was different, and late break-down of the grafts or recurrent ulceration was not uncommon.

It was felt, therefore, that the deliberate use of a granulating wound as a base for the receipt of new skin might offer advantages in certain circumstances.

The largest group of cases included those of old superficial wounds, the result of either burns or trauma, which presented as areas of chronic ulceration, or of

thin unstable epithelium with a history of recurrent ulceration, or healed wounds with much deep scarring and the production of deformity where healing had been hastened by contracting scar-tissue.

In many cases of this type it was obviously necessary to excise the wound plus all the deep scarring before skin-replacement could be considered. After the excision, it was often found that the wound was quite unfit to receive a free skin-graft because of an avascular base and the proximity of bone or tendon, or because of irregularities in the base. If a free graft is attempted in these circumstances, loss of the graft or a vital portion of it through failure of vascularization is a common sequel.

A further complication which also results in failure is the occurrence of serous blistering. It has been observed frequently that where the base of the wound contains much scar-tissue, or when bone underlies the wound and a skin-graft is applied, the graft may take satisfactorily but thereafter a serous blister occasionally forms between



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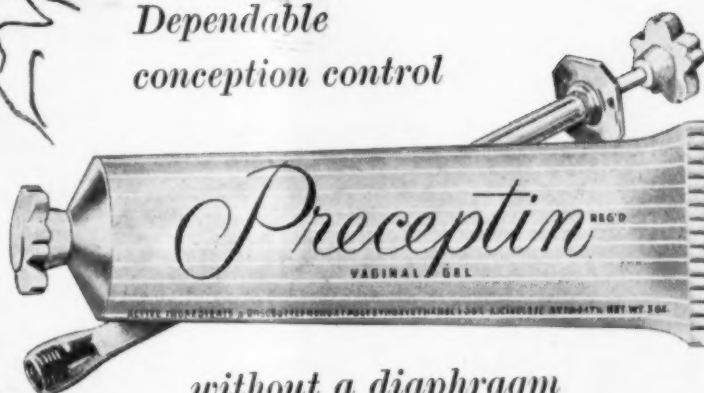
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Fig. 1 (a). Early granulating wound of leg. Fig. 1 (b). Two weeks after skin-grafting. Fig. 1 (c). Condition one year later

the graft and its bed. This blister increases in size and causes loss of the affected portion of the graft. The explanation of this serous collection is not obvious, but it has only been observed where the recipient wound has an avascular base and contains much scar-tissue or adjacent bone. It may occur in these circumstances, irrespective of whether the operative dressing is taken down early, on the 3rd or 4th day, or left untouched for 10 days or more. Further, if the blister is incised and drained, the fluid will usually reaccumulate at the same site.

This chain of events is not infrequently seen when a varicose ulcer of the leg is excised and immediately skin-grafted. The upper portion of the graft usually takes satisfactorily, where muscle underlies the area of

excision, but the lower portion or any part in relation with the subcutaneous surface of the tibia is frequently lost by the accumulation of a serous blister. Thus where a wound base is poorly vascularized, skin replacement by some form of local or distant skin-flap is usually considered necessary, and undoubtedly is so when a further deep operation on bones, joints or tendons is contemplated. When, however, all that is necessary is to re-surface the affected area with stable skin, a free skin-graft would form an adequate covering if it could be persuaded to 'take' on such a poor base.

In order to test the validity of this theory, a trial was made of a carefully-planned two-stage procedure for skin replacement by free grafts in chronic superficial wounds in unfavourable anatomical sites. At the first

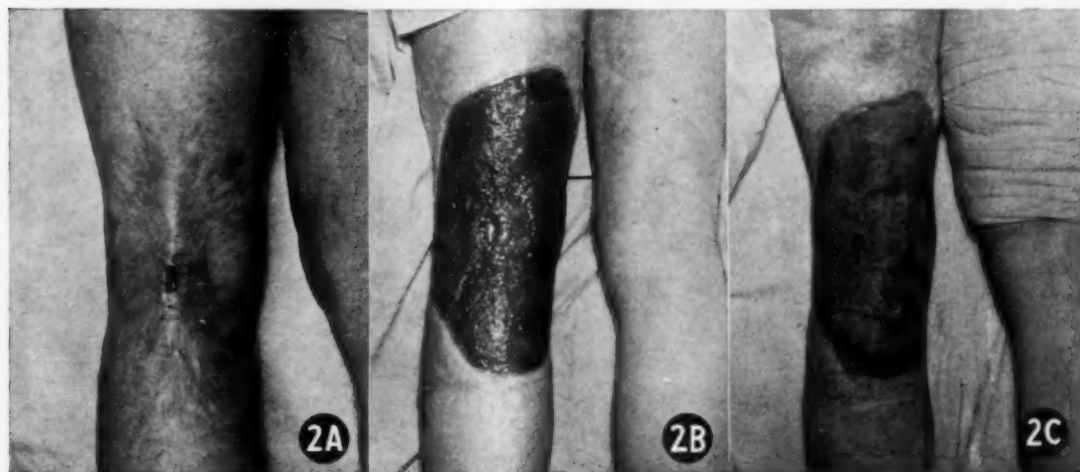


Fig. 2 (a). Old burn of popliteal fossa with limitation of extension at knee and chronic ulceration. Fig. 2 (b). Ten days after excision. Fig. 2 (c). One week after skin-grafting.

operation the whole of the area of ulceration and scarring is excised to reproduce the full extent of the original wound. Where bone or tendons underly the wound, the deep dissection of scar tissue is proceeded with very cautiously, the aim being not to expose these structures completely but to leave them covered with a thin film of scar tissue and to produce a wound containing the minimum amount of scarring consistent with having a smooth flat base.

The wound is then packed and a firm-pressure dressing applied, and in the case of limb wounds immobilization is secured by a plaster-of-paris cast. This dressing is left undisturbed for about 4 or 5 days and thereafter dressings are done twice daily in order to produce a clean flat red granulating surface. After the primary excision the granulating wound may become fit to receive a skin-graft within a week, or it may be necessary to persist with dressings for 2 weeks or longer until a suitable recipient base has been obtained. As soon as this has been achieved the entire area is covered by a single sheet of split skin-graft. The dressing applied at operation is removed early, usually between the 3rd and 5th day after operation, and thereafter the dressing is renewed daily.

The post-operative care of these grafts is important, particularly in the case of grafts to the foot or leg. It has been found that if unrestricted or early walking is permitted the grafts become cyanosed, and if this is not relieved by elevation of the limb, ulceration and breakdown of the grafts may occur. It is of the greatest importance to prevent any breakdown of the grafts, and in grafts to the lower leg of foot it may be necessary to alternate periods of exercise with elevation for 4-6 weeks until there is no longer cyanosis in the dependent position.

This planned two-stage procedure was designed to facilitate the use of free skin-grafts in unfavourable areas, and it has now been used in a large series of cases with almost consistent success. By its use, primary failure to take, due to lack of vascularization, is prevented, loss of the graft through serous blistering is rare, and loss through haematoma-formation cannot occur. Experience has shown that where stable healing alone is required, operation in two stages will often allow the use of a free skin-graft without the necessity of using a direct skin-flap or a tube-pedicle flap.



Fig. 3 (a). Chronic ulcer of foot following scalding. Fig. 3 (b). One week after excision. Fig. 3 (c). Ten days after skin-grafting. Fig. 3 (d). Condition nine months later.

THE PHYSICIAN AND THE HUMAN SOUL

AN EXTRACT FROM AN ARTICLE

BY H. H. E. SCHULZ, M.R.C.S., L.R.C.P., ASHTON, CAPE

Kenneth Walker in his book *The Healing Arts* says 'I am glad that I am ending rather than beginning my medical career, for I do not like the direction in which the medical profession is at present moving'. . . . 'Never before have doctors looked with greater anxiety into the future, or had more doubts about the effect that recent legislation will have on their profession'.

The medical profession in all western countries is facing a severe economic and social crisis. It has been openly said that modern life has no place for the family doctor and that he is as dead as the proverbial dodo.

The ordinary citizen feels that trained medical services are not worth what he pays for them. That is the reason for the medical legislation fixing medical fees on a piece-work basis, legislation which has degraded medical practice from a noble idealistic profession to an economically precarious trade.

The ordinary man in the street expresses and explains his dissatisfaction on purely materialistic grounds and his remedies by legislation are based on equally materialistic considerations. The root of the dissatisfaction between doctor and public lies much deeper than mere economic circumstances. The man in the street is unconscious of this and most members of the medical profession are equally ignorant of this cause.

There is an imperative basic human need which is particularly active during illness. That need is an irresistible urge for human contact. Somewhere along the line of history the trained medical profession—taken as a whole—has ceased to satisfy this basic human need. Until the medical profession, individually and collectively, learns to satisfy this basic human craving, their patients will feel, and forever continue to feel, that medical practitioners do not give them their money's worth.

Medical practitioners also continue to feel that present-day society barely tolerates them and that they have no dignity or status in present-day social life and culture.

The reason for all these difficulties in the medical field is the same as for the difficulties on the educational, moral and cultural fields. It must be looked for in the so-called 'modern scientific outlook'.

GOETHE'S PREDICTION

Goethe, 150 years ago, predicted that the way science was proceeding to analyse everything would have dire results. He said that eventually science would find itself with most of man's component parts in its hands, but would lose man's soul in the process of analysis. This has actually happened. All anthropological sciences have mislaid man's soul, and they even deny the very existence of man's soul. As Professor Khine puts it, where science stepped in the soul stepped out.

J. S. Haldane wrote: 'I said that the present age in western civilization will apparently come in future to be regarded as a prevailing idolatrous age, though the form which this idolatry takes differs from the form met in previous ages. The idolatry I referred to is what may be called physico-chemical realism—the recognition, that is to say, of the universe interpreted in terms of the physical sciences as representing in all essential respects ultimate reality'.

We need not expend much energy on searching for proof that this is what has actually happened. Of the many scientific men I could quote to prove this, I quote one only—a medical man. Arnold Soresby in his book *Medicine and Mankind* says: 'Today it is clear that no understanding of health and disease is possible except through an approach which visualizes the body in unstable physico-chemical equilibrium, constantly responding to the shifting equilibria of the outer world, of which the body itself is but one aspect'. 'The physician who thinks of the body as a graven image introduces idolatry into medicine. To the true physician there is no solid medium, but only motion and amorphous man'.

To understand the last sentence we must remember that modern physico-chemical science defines matter merely as 'motion or a series of events'. Motion, in other words, according to the physico-

chemical view of the universe, is the only and ultimate primary reality.

Soresby and all purely physico-chemical scientists fail to explain how this amorphous man who only consists of the motions gone through by an unstable physico-chemical equilibrium in an equally unstable physico-chemical environment can have a mind, free-will, ideals and morals. If man were in reality only the observable result of interaction between such unstable physico-chemical equilibria, then physico-chemical scientists should take over the guidance not only of medicine but of all social and cultural activities of man. But even there it is impossible to understand how an unstable physico-chemical equilibrium could develop free-will, which is necessary to choose a given course of action.

Sir James Jeans states the case excellently when he says 'The purely mechanical picture of visible nature fails. . . . It proclaims that the ripples themselves direct the workings of the universe instead of being merely symptoms of occurrences below; in brief, it makes the mistake of thinking that the weathervane determines the direction from which the wind shall blow, or that the thermometer should keep the room hot'.

Both the medical practitioner and to a less extent the man in the street labour under the influence of this illogical mechanical physico-chemical view of modern science. In the economic field and all other purely material fields the emptiness of this outlook does not show up so easily, indeed it has brought about enormous material changes and conferred great material benefits on mankind.

Naturally it has also been applied to medicine and resulted in unbelievable improvements in and new discoveries of physico-chemical curative agents. It was believed and is still believed by many that along these lines permanent health and happiness would be assured to man.

'BRILLIANT FAILURE'

As in other fields these predictions have proved totally wrong. Many leaders in medicine already speak of the 'brilliant failure of modern medicine'. The patients on the other hand feel that they are being cheated by medical practitioners of something that is their right, something that is absolutely essential to their health and happiness.

The greatest lack of modern medicine is that in all essential treatments the soul of man is considered a mere figment or delusion of the mind. It is completely ignored. That is why modern medicine has never satisfied the average normal patient. A man who honestly believes himself and his fellow men to be 'merely motion and unstable physico-chemical equilibria' in time becomes impervious to ideals and human contacts. If he is a doctor, his patients unconsciously feel this lack of humanity in him and turn elsewhere for help to people who are able to satisfy his craving for human contact, and who can give him the milk of human kindness.

The fact is that success in the art of healing, more than in any other art, depends on an ability to mobilize the unconscious subjective powers of the human mind or soul. Physico-chemical treatment is a necessary and essential adjuvant to treatment and prevention of disease, but without the primary influence and support of the individual subjective forces of the human mind they will not cure.

It was a South African, General J. C. Smuts, who was one of the first to re-state the truth that man is more than an unstable physico-chemical constellation. He says in his clear terse way: 'In Biology the environment is given, its objective fact and its effects can be formulated in laws. Man, however, shows his superiority to nature by largely creating his own environment. His intelligence enables him to circumvent nature, to command the forces of nature, and thus to alter the natural situation into what suits him. Thus the subjective human factor enters the environment'.

In other words man is not merely an unstable physico-chemical equilibrium, but each individual also has his own individual subjective human force which we are wont to call man's soul or

spirit. This subjective factor is able to act on the objective physico-chemical universe and—as Max Brod puts it—to disrupt the ordinary expected movement of physico-chemical events both in man's physical body and in his physical environment.

Until both doctor and patient re-learn the eternal truth that man cannot be explained as a mere conglomeration of objective physico-chemical fields of force but that he has also an individual subjective force which integrates and changes his reaction to his objective environment, including his own body, medicine will forever remain the 'brilliant failure' it is today. Until doctor and patient meet each other on the subjective human plane, instead of relying only on objective physico-chemical contacts, patients will remain dissatisfied and doctors will be unhappy and frustrated.

RE-EDUCATION THE CURE

This state of affairs can only be cured by re-education. We all must learn again that our physical needs are not our only primary human needs and do not represent real primary realities. Man is an indivisible entity consisting of an objective physico-chemical body through which the individual subjective human force expresses itself. Inside the human organism the one cannot exist without the other. All medical treatment has to take cognizance of both the passive objective body and the active subjective mind, soul or spirit.

In past history this fact was borne in mind by all healers including primitive magicians to the best of their ability and understanding. Only the science of the 19th and 20th century has denied the existence of the soul of man. Let us return to the old eternal truths.

Although we shall interpret the behaviour of man differently

from our forefathers because we have learnt more about him, the essential basis of all human relationships cannot be merely objectively physico-chemical but must also take into consideration the subjective needs of his human soul.

The realisation of this truth will change the attitude of man to man and especially the attitude of the patient to his doctor and of the doctor to his patient. Then and only then we shall again enjoy the ideal relationship between patient and doctor as described by Seneca where he writes to a friend: 'You imagine that you owe the physician and teacher no more than his fee: but we love and honour both very highly. There are things that must be valued much higher than the sum of money that buys them. You buy from your physician something of inestimable value: life and health. From your teacher you buy knowledge and noble mental culture.'

'These two professions are therefore paid for the trouble they take, and not for particular matters or cases. They have to put aside and neglect their own affairs in order to devote themselves to us.'

'Why do I consider that the payment of their fee does not absolve me from further debt? Both of them become my friends, and we do not value them because of their commercialized art, but because of their benevolent friendship. The physician's heart beats faster because of me and not because of personal fame in his art. It was not enough that he prescribed and even brought the necessary remedies to me in person. He sat anxiously by my bedside and came at once when any serious symptoms appeared. He did not refuse any service, even the most filthy and loathsome, and he listened to my sighs and complaints with true compassion.'

MEDICO-LEGAL

IN THE SUPREME COURT OF SOUTH AFRICA
(TRANSVAAL PROVINCIAL DIVISION)

THE SOUTH AFRICAN MEDICAL AND DENTAL COUNCIL (APPELLANT) AND MAURICE SHAPIRO (RESPONDENT)
(JUDGMENT DELIVERED 31 MARCH 1954)

Judgment. (MURRAY, J.) The present is an appeal from the judgment of De Villiers, J., in Chambers.

The petitioner, a registered medical practitioner, prayed the Court (i) for a declaratory order that (a) Rule 5 of the Respondent Council's byelaws and (b) Rule No. 13 (1) of its Ethical Rules were *ultra vires* and of no force and effect, and in addition, (ii) for the grant of an interdict restraining the Respondent Council from using any of its funds for the maintenance of a register of specialities or specialists in respect of medical practitioners.

In regard to the first declaratory order prayed it is common cause that the actual rule attacked is the present Rule 7. In regard to the second declaratory order prayed, it appeared to the learned Judge that although only Ethical Rule 13 (1) was specially mentioned, the dispute between the parties was of a wider character and related not only to that rule, but also to certain Rules 9, 10 and 12. In truth Rules 9 and 10 had been repealed before the institution of proceedings, but their provisions are to be found in the present Rule 8 as published in Government Notice 2632 of 14 November 1952.

Rule 11 which came into force in its present form on the same date is also relevant. Broadly speaking, the petitioner's complaint was that the Council had exceeded its powers under Act 13 of 1928 in keeping a register of specialists, in prescribing the conditions upon which a medical practitioner would be recognised by it, through entry on that register, as a specialist, in restricting specialist practice to persons so recognised and registered, and in providing ethical rules which would subject medical practitioners to disciplinary provisions for breach of the Council's directions in regard to specialist practice.

The following order was made by the learned Judge:

1. That the rules made by the Respondent Council laying down the conditions for registration of any speciality

in the calling of medical practitioner and making, holding out or practice as a specialist in any speciality conditional upon such registration be, and are hereby declared *ultra vires* (rules 9, 10 and 12);

2. That ethical rule 13 (1) be likewise declared *ultra vires*;
3. That the Respondent Council be, and it is hereby, interdicted from using any of its funds in giving effect to rules 9, 10 or 12, or ethical rule 13 (1); and
4. That the Respondent Council pay the applicant's costs.'

It will be noticed that no order was made in regard to Rule 7, and there is no cross-appeal in regard thereto. It is however desirable to refer briefly to this matter. Under Sec. 15 of the Act Registers are to be kept in which are to be entered the names, addresses, qualifications, dates of first registration thereof and such other particulars as the Council (or the Pharmacy Board) may prescribe relating to (a) medical practitioners, (b) dentists, (c) chemists and druggists, (d) various kinds of nurses as also (e), (f), (g) and (h) midwives, masseurs etc. Sec. 94 (1) empowers the Council (or Board) to regulate *inter alia* (f) the forms of the registers and (g) the forms to be filled in and the documents to be submitted by applicants for registration. The duty of keeping the register is imposed on the Registrar. Rule 7 reads as follows:

'The Register of Medical Practitioners and Dentists shall contain the following particulars in regard to each person registered:

Name of practitioner in full; address; year of first registration; qualification in abbreviated form, in respect of which first registered; additional qualifications, if any, in abbreviated form; name of speciality, if any, registered.'

It is the concluding phrase of this rule to which the petitioner objected, contending that the Council thereby keeps a register

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of specialists, for which it holds no authority under the Statute. The Council justifies its action on the ground that the fact of specialisation is only one and in its view the most important of the 'particulars' which the Act permits to be recorded. It has from time to time compiled, for use by the public and the professions, lists of medical practitioners practising specialities recognised by it. It denies that it keeps a special Register of Specialists. The learned Judge *a quo* declined to make the desired order that this particular rule was *ultra vires*.

The main dispute centres around Rule 8 and the Council's ethical rule, No. 13, regarding conduct in relation to specialist and consultant practice, which may result in disciplinary action. Rule 8 is somewhat lengthy, and no good purpose would be served by setting it out verbatim. Its effect can be summarised as follows. The Council has made provision for two special classes of medical practitioners viz. specialists and consultants. It has created a number of specific specialities.

It has set forth the requirements laid down by it, not only as to the possession of higher qualifications in the form of a degree or diploma related to the speciality concerned, obtained after examination and acceptable to the Council, but also to the lapse of six years after the acquisition of the ordinary qualification entitling to registration and the necessity of two years in general practice. In addition proof is required of three years clinical experience in the speciality desired to be registered. This is in essence the effect of Rule 8 and these requirements must be satisfied by any medical practitioner desiring to have the name of his speciality inserted in the Register. Rule 12, however, empowers the Council to register as a specialist a medical practitioner who does not comply fully with the requirements of the rules if it is satisfied that such practitioner is competent to practice as a specialist. Under Rule 11 in its present form a registered specialist may have his name removed from the specialist register and 'he shall' then revert to general practice. Amongst the rules regarding conduct of which the Council may take cognisance for disciplinary purposes appears Ethical Rule 13 relating to consultants and specialists, which must be set out in full:

*CONSULTANTS AND SPECIALISTS

- (1) Holding himself out as a specialist, unless he has been recognised as such by the Council, and his speciality has been registered, and he confines his practice entirely to such speciality or associated specialities, bracketed together as under, as are included in the Schedule appearing below, or to such other speciality or associated specialities as may from time to time be added by resolution of the Council:

(here follows a list of specialities)

*Notes.

- (i) The retention of the name of the practitioner's speciality in the register shall be contingent on the practitioner confining his practice to his speciality. It is, however, understood that it is incumbent on a specialist to make such other examinations as are required and as he is able to make to enable him to make a diagnosis or to perform his work as a specialist.
- (ii) A specialist receiving a patient sent to him by another practitioner, must behave as a consultant and send the patient back to such practitioner, unless specially asked by such practitioner to continue to treat the case. A specialist may treat any persons who may come to him direct for consultation.
- (2) Holding himself out as a consultant when attending and treating patients except in consultation with and at the request of other practitioners.

There can be no doubt as to the result of these Rules if valid. The Council has laid down its requirements for the registration of a medical practitioner as a specialist, and has made practice as a specialist improper unless the practitioner has been recognised as such by the Council and has had his speciality registered with it; and he must confine his practice entirely to his registered speciality or to one permitted by the Council to be associated therewith.

It is unnecessary to emphasise that it is not a function of this

Court to express any opinion as to the desirability of giving the Medical Council power to control specialist (and consultant) practice on the basis underlying the rules now in question. In his argument on behalf of the Council, Mr. Findlay stressed the necessity, on grounds of public policy, for giving the Medical Council the fullest power to restrain and prevent medical practitioners from attempting to perform professional duties for which they possess neither the special qualifications nor the experience necessary to render them competent. Neither this matter, nor any departure from the Courts' expressed, and well known, attitude of unwillingness to disregard the Medical Council's *bona fide* judgment as to what constitutes improper professional conduct is in issue here. The question is entirely one of construction of the Act in order to ascertain whether the Legislature has in fact conferred on the Medical Council power to prescribe the rules now challenged.

The learned Judge *a quo* came to the conclusion that the Council possessed no power under the Statute to make these rules and in consequence he granted the order indicated. I find myself in agreement with that conclusion, and on substantially the same grounds as are set out in the judgment now appealed against. This agreement renders it possible to shorten the statement of my reasons for considering that the present appeal fails.

The power to decide upon the qualifications entitling a person to registration as a medical practitioner is vested by the Legislature in the Governor-General (Act 13 of 1928 Sec. 22). It is not challenged that the possession of these qualifications and compliance with the procedural provisions of Sec. 24, confers a legal right to registration (Read v. S.A. Medical Council 1949 (3) S.A. 997) and *prima facie* registration carries with it the right to practice and perform all the functions appertaining to a medical practitioner. The Legislature makes no discrimination between general practitioners, specialists and consultants, although in section 33 it permits a registered medical practitioner to obtain the registration in the Medical Register of prescribed degrees, diplomas or certificates other than those in respect of which he was first registered.

If registration under Sec. 22 *prima facie* does carry the wide right indicated, it would be necessary if that right is to be cut down for the Statute to include some provision in limitation thereof, either directly or by the grant to the Medical Council of power to prescribe limitations. I entertain no doubt that if an inexperienced young medical practitioner with relatively little experience and no special qualifications were to venture into a particular field of medical activity in which in actual fact his ignorance or inexperience would render his intervention a danger to the health or life of his patients, the Council could deal effectively with him under its disciplinary regulations.

The Council's present rules, however, assume the possession of far wider powers. It is easy to imagine cases where a medical practitioner with only the ordinary degrees on which he was registered and with none of the higher qualifications of degree or diploma specified by the Council as a *sine qua non* for its specialist registration, has concentrated for years on some particular branch of medical activity and has acquired the knowledge and experience which make him an expert, a *de facto* specialist in that particular branch. Moreover cases possibly or even probably exist where a practitioner has the prescribed higher qualifications as well as practical experience equivalent to what the Council demands, and may have become a recognised specialist of renown outside of the Union, but though entitled to be registered by the Council as a specialist he prefers not to apply for such registration.

If the Council has the power to define what a specialist is, and to prescribe what a specialist may or may not do, the medical practitioner in the above cases will expose himself to disciplinary action for unprofessional conduct if he holds himself out as a specialist or if he does not confine his practice to a particular speciality or an associated one; he cannot combine that practice with general practice or other speciality practice.

To my mind there can be no doubt but that this restrictive action on the Council's part constitutes an invasion of the right of a medical practitioner, registered under sec. 22, to practise any branch of the functions of medical practice. In consequence enquiry is necessary as to the source from which the Council derives such power of restriction.

The argument addressed to this Court by Mr. Findlay in support of the Council's present appeal in essence amounted to the con-

tention that (provided the Council acted in good faith, and this was not here challenged) it was entitled to make ethical rules. The Council was the best judge as to what was or was not ethical or professionally proper, and what the rules now attacked forbid is the conduct of a medical practitioner in pretending to have and in 'holding himself out' as having a special competence which in fact he does not have. It was urged that the Council did not prohibit a medical practitioner from *de facto* practising as a specialist by concentrating on or restricting his activities to one particular branch of medical functions: only his 'holding himself out' to be a specialist in such branch was regarded as improper.

This argument does not appear to be well founded. It is true that the Council may, under sec. 47, both prescribe in advance the acts or omissions of which it will take cognisance and also enquire *ad hoc* into complaints against a medical practitioner even if not relating to a prescribed act or omission. But I cannot agree that this power extends beyond permitting the Council to regulate the manner in which the medical practitioner conducts such professional activities which the law permits him to exercise. By itself this power does not carry the far wider one of restraining the practitioner from doing, even in an entirely proper and ethical manner, what the law says he may do.

Until the statute defines the term 'specialist' either in express terms or by deputing to the Council the power to define it, the Council is not entitled, in my view, to define the term in such a way as to make itself the sole arbiter of what is a specialist, and of what a specialist may or may not do in a particular field of specialist activity. In the absence of an authorised limitation of the term, a medical practitioner who is *in fact* a specialist—though not registered by the Council as one—cannot be said to claim the possession of a competence which he does not possess, provided (it may safely be assumed) that he does not misrepresent himself to have been recognised by the Council as a specialist.

The Council, as stated by Mr. Findlay on its behalf, disclaims any intention of preventing a medical practitioner from performing any professional function which his registration permits: the contention is that the mischief is one of 'holding out', in the same way as certain of the earlier ethical rules prohibit advertising and control name plates, letterheads etc. The present case does

not concern any improper methods adopted by a medical practitioner (not registered as a specialist with the Council) in making it known that he specialises in a particular field. As the learned Judge points out, it is inevitable that a medical practitioner who proposes to restrict his practice to the treatment of a particular disease or the exercise of a particular branch of the profession must inevitably indicate both to the public and to the profession that he specialises therein. But (as above stated) he does not thereby claim a competence which he in truth does not possess.

That the broad questions of public policy (on which Mr. Findlay placed reliance) cannot be affected by the above view of the position will appear from a possible instance suggested in argument, to which rule 11 would be applied. Assuming A and B, each possessing the necessary academic qualification, training and experience for a designed speciality, obtain specialist registration with the Council, and thereafter A at his own request has his name removed from the Council's register of specialists, while B continues thereon, it is difficult to see how public interest would be promoted by requiring A under that rule to revert to general practice exclusively and preventing him from letting it be known in a legitimate fashion that in addition to general practice he proposes to perform the specialist function which he has previously performed and in respect of which his competence has been recognised by the Council itself.

It may be desirable to draw attention to Ethical Rule 8 (5) and (6) regarding partnerships between a general practitioner and a specialist, and participation in a partnership between specialists in different specialities. Though not referred to in argument, this rule is conceivably open to the same objections as those declared *ultra vires*.

The order issued must be amended to substitute the figures 8, 11 for the figures 9, 10 in paragraphs 1 and 3, but otherwise the judgment appealed against is correct and the appeal must be dismissed with costs.

(Sgd.) J. M. Murray
Judge of the Supreme Court
(Sgd.) W. H. Ramsbottom
Judge of the Supreme Court
(Sgd.) A. C. Malan
Judge of the Supreme Court

ASSOCIATION NEWS : VERENIGINGSNUUS

ANNUAL MEETING OF GRIQUALAND WEST BRANCH

At the Annual General Meeting of the Griqualand West Branch held in the Board Room, Kimberley Hospital on 25 March 1954, Dr. J. H. Kretzmar was in the Chair and 20 members attended.

Secretary's Annual Report. The Secretary reported that during the year there had been 3 business meetings and 9 clinical meetings at which a variety of interesting cases were demonstrated. Visiting lecturers at clinical meetings were Mr. T. Schrire (Cape Town), Prof. Ian Aird (London), Mr. L. Fatti and Mr. G. Katz (Johannesburg) and Dr. I. Sacks (Bloemfontein). Branch Council had held two meetings. Federal Council met in Kimberley in October and delegates were entertained by the Branch. The Branch was further honoured by the election of Dr. J. P. Collins as President of the Association.

Treasurer's Annual Report. The Hon. Treasurer's report was then read and adopted.

Election of Office Bearers. The following office-bearers were elected: *President*, Dr. J. E. Vaughan Jones; *Vice-President*, Dr. D. E. Stephens; *Hon. Treasurer*, Mr. N. Kretzmar; *Hon. Secretary*, Dr. L. Schrire; *Assistant Secretary*, Mr. A. de Villiers Minnaar; and *Branch Council*: the above and in addition

Drs. J. H. Kretzmar, H. Lowenthal, I. Hammar, U. F. McKenzie, B. Alexander, and J. Botha.

Representatives on the South African Blood Transfusion Service, Dr. J. P. Collins (alternate Dr. A. A. Shein); on the Cripple Care Committee, Dr. J. E. Vaughan Jones on the Kimberley and Northern Cape Mental Health Society, Dr. G. de V. de la Bat, and on the Committee for Treatment of Alcoholism, Dr. G. T. Tandy.

As Dr. J. P. Collins, by virtue of being President of the Association, automatically becomes a member of the Central Practice Committee, Mr. N. Kretzmar was elected as Branch Representative.

Dr. J. H. Kretzmar, the outgoing Branch President, thanked the Branch for its co-operation during the year and inducted Dr. J. E. Vaughan Jones. The new President thanked the Branch for the confidence imposed in him and thanked the outgoing President for his services to the Branch. Dr. Kretzmar then delivered his Valedictory Address.

Certain items of business were discussed, and the meeting was finally closed with a vote of thanks to the Chair.

WARNING : CHLORAMPHENICOL AND ERYTHROMYCIN

CHLORAMPHENICOL

The following note is reprinted from the *Journal of the American Medical Association* (1954), 154, 144, being the report of the Council on Pharmacy and Chemistry on the therapeutic use of chloromycetin:

'Because of the occurrence of serious and fatal blood dyscrasias it is advisable to restrict the use of chloramphenicol to the treatment of typhoid fever and other serious infectious diseases caused by organisms controlled by chloramphenicol but resistant to other antibiotics or other forms of treatment.'

ERYTHROMYCIN

When erythromycin became freely available on prescription in Britain last month, the Ministry of Health circulated to all hospitals the following note—prepared by the British Medical Research Council—on the indications for and dangers of the drug.

'Erythromycin has a range of activity similar to that of penicillin and has been shown to be effective in acute infections due to haemolytic streptococci, pneumococci, and staphylococci. Organisms resistant to all other antibiotics are nevertheless sensitive to it: hence its greatest value is in treating staphylococcal infections not responsive to other drugs, the frequency of which, particularly in hospitals, is showing a disturbing increase. A peculiar form of this infection in which its action may be life-saving is the severe staphylococcal enteritis complicating therapy with the broad-spectrum antibiotics or with penicillin and streptomycin. Some

other species, including members of the genera *Neisseria* and *Haemophilus* and *Rickettsia*, are also sensitive to it.

'Erythromycin is itself a drug to which bacterial resistance can be acquired rather rapidly, and this may be a cause of treatment failure in infections difficult to eradicate, such as endocarditis. It has also to be remembered that bacteria rendered resistant in one patient may later cause infections in others which are insusceptible to the drug from the outset. It might be disastrous if a staphylococcal population were built up which was resistant to erythromycin as well as to earlier antibiotics. It is therefore most necessary that this drug should be prescribed with due regard to the risks of indiscriminate use. Penicillin should be preferred, on this ground—and, it may be added, that of economy—when it will serve equally well. Erythromycin should not be prescribed for most chronic conditions which respond poorly to it as compared with acute conditions—for trivial indications, or for those in which the bacterial cause is unknown.'

MEDICAL CONFERENCES IN GREAT BRITAIN

The following list of Medical Conferences in Great Britain in 1954, issued by the British Medical Association, supplements the list issued earlier and published in the *Journal* on 16 January 1954 (28, 56). Inclusion in the list does not imply B.M.A. approval. Dates and other particulars are liable to be changed. The name of the secretary or organizer is given in each case.

Information on meetings not included in the list may be obtained on application to the Public Relations Department, British Medical Association, B.M.A. House, London, W.C. 1., England.

30 April—1 May. *British Association of Physical Medicine—Annual Meeting*. At King's College Hospital, London, S.E. 5. (Meeting open to members, any guests should be introduced by members). Hon. Secretary, British Association of Physical Medicine, 45, Lincoln's Inn Fields, London, W.C. 2.

6—8 May. *Institute of Hospital Administrators—Annual Meeting*. At Oxford. Institute of Hospital Administrators, 75, Portland Place, London, W. 1.

17—21 May. *Provincial Medical Exhibition*. At Victoria Rooms, Bristol University, Bristol. London Medical Exhibition, 194-200, Bishopsgate, London, E.C. 2.

28—29 May. *Family Planning Association—Branch Conference and Annual Meeting*. At Church House, Westminster, London. General Secretary, Miss Irene M. James, Family Planning Association, 64, Sloane Street, London, S.W. 1.

30 June—2 July. *National Association of Maternal and Child Welfare—Annual Conference*. At Church House, Westminster, London. National Association for Maternal and Child Welfare, Tavistock House South, Tavistock Square, London, W.C. 1.

5—8 July. *Society for Applied Bacteriology—Annual General Meeting*. At Edinburgh. G. Sykes, Esq., Boots Pure Drug Co., Ltd., Microbiology Division, Standards Department, Nottingham.

7—9 July. *British Orthoptic Society—Annual Conference*. At Somerville College, Oxford. Mrs. E. Gwilt, M.B.E., Central Medical Establishment, R.A.F. Kelvin House, Cleveland Street, London, W. 1.

7—10 July. *British Tuberculosis Association—Annual Conference*. At Oxford. Secretary, British Tuberculosis Association, 16, Grosvenor Place, London, S.W. 1.

14—16 July. *Ciba Foundation Symposium on Aspects of Ageing*. (Attendance at these meetings is by invitation). At London. Dr. G. E. W. Wolstenholme, Director of the Foundation, 41, Portland Place, London, W. 1.

15—30 July. *Students International Clinical Conference of the International Federation of Medical Student Associations*. At London, Birmingham and Edinburgh. British Medical Students Association, Tavistock House, Tavistock Square, London, W.C. 1.

19—21 July. *Second Radio-Isotope Conference—Medical, Biological and Agricultural Papers*. At Playhouse Theatre, Oxford. Secretary, Second Radio-Isotope Conference, A.E.R.E., Harwell, Berks.

22—24 July. *Society for the Study of Fertility—Conference*. At Meeting House of the Zoological Society, Regent's Park, London. Mr. H. H. Fouracre Barnes, F.R.C.S., 31, Weymouth Street, London, W. 1.

17 August. *World Federation of Occupational Therapy*. At Edinburgh. The Congress Secretary, Occupational Therapy Department, Astley Ainslie Hospital, Edinburgh, 9.

5—7 October. *Ciba Foundation Symposium on the Tubercle Bacillus and the Reaction of the Host Tissue*. (Attendance at this meeting is by invitation). At London. Dr. G. E. W. Wolstenholme, Director of the Foundation, 41, Portland Place, London, W. 1.

21—23 October. *British Orthopaedic Association—Annual Meeting*. At London. British Orthopaedic Association, 45, Lincoln's Inn Fields, London, W.C. 2.

5—6 November. *British Society of Gastroenterology—Annual Meeting*. At London. Mr. Hermon Taylor, F.R.C.S., 14, Upper Harley Street, London, W. 1.

15—19 November. *London Medical Exhibition*. At Royal Agricultural Hall, London, S.W. 1. London Medical Exhibition, 194-200, Bishopsgate, London, E.C. 1.

THE BENEVOLENT FUND : DIE LIEFDADIGHEIDSFONDS

The following contributions to the Benevolent Fund during March 1954 are gratefully acknowledged.

Votive Cards in Memory of:

Mr. Justice P. S. Twentymann Jones by Dr. & Mrs. A. W. Sichel, Dr. A. H. Cole.

Dr. A. Glatt by Dr. A. Rosin.

Dr. R. Meyerstein by Dr. F. Walt, Natal Coastal Branch.

Dr. A. Bonfa by Natal Coastal Branch.

Dr. Hans Greeff by Dr. Vernon Brink, Cape Midlands Branch.

Dr. W. Gilbert, Dr. G. T. van der Vyver.

Mr. W. A. Pocock by Dr. Cyril Frost.

Dr. R. D. McDonald by Cape Midlands Branch.

Mrs. James Black by Dr. J. C. Coetzee.

Dr. D. Saayman by Dr. A. Landau.

Dr. C. J. Watson by Dr. L. B. Goldschmidt.

Dr. Francis Brett-Young by Dr. & Mrs. A. W. Sichel.

Total amount received from Votive Cards: £17 4 6

Services Rendered to:

John Gold by Mr. J. Wolfowitz, Dr. Schaff and Dr. K. Jooste.

H. Dirneik son of Dr. E. L. Dirneik by Dr. A. W. Sichel.

Dr. W. Gilbert by Dr. J. L. van Selm.

Dr. A. Goldfoot by Dr. A. W. Sichel.

Mrs. A. S. Smith by Drs. A. J. S. Boyd and G. P. Charlewood.

Total amount received from services rendered: £16 6 0

Donations:

Dr. C. P. Penberthy 0 6 0

Dr. H. W. van Zuydam 1 1 0

Dr. P. T. Hauff 1 1 0

Dr. R. Resnekov 1 1 0

Dr. J. P. Beazley 1 1 0

Dr. A. Greenberg 1 1 0

Dr. H. Simon 1 1 0

Dr. R. P. Seymour 1 1 0

Dr. H. Schiller 0 10 6

Dr. D. P. Bringle 0 10 6

Dr. H. L. Wallace 3 0 0

Dr. H. S. Flook donation in memory of Dr. Walter May 5 5 0

Total £49 2 6

PASSING EVENTS : IN DIE VERBYGAAN

Dr. J. Mibashan has changed his residence and surgery (hitherto at 182, Main Road, Sea Point) to 'Keren Orr', 11, Arthur's Road, Sea Point. His telephone number there remains 4-5184. His surgery at 41a, Somerset Road, Cape Town (telephone 2-0684) remains unchanged.

HONORARY APPOINTMENTS IN CAPE HOSPITALS

The Cape of Good Hope Provincial Administration have inserted in this issue of the *Journal* a reprint of the Regulations relating to the Honorary Medical Staff of Provincial Hospitals, which were promulgated (P.N. 553/1953) on 3 July 1953.

Under these regulations appointments to the honorary medical staff of Cape provincial hospitals are advertised in this *Journal*, as well as in newspapers circulating locally; and the appointments are made by the medical superintendents in consultation with the medical committees and hospital boards of the hospitals concerned.

Medical practitioners who wish to apply for appointment on the honorary staff of any Cape provincial hospital should therefore watch for advertisements of vacancies in the *Journal* and the newspapers circulating in the hospital area.

INTERNATIONAL DIABETES CONGRESS

The Second Congress of the International Diabetes Federation will be held at Cambridge, England on 4-8 July 1955, under the presidency of Sir Lionel Whitby, K.V.O., M.C., M.A., M.D., F.R.C.P., Master of Downing College, Cambridge. The hosts will be the Diabetic Association, 152 Harley Street, London, W.1., of which the Acting Secretary General (Mr. James G. L. Jackson) will issue further particulars and publications in connexion with the Congress.

RAND MEDICAL DISCUSSION CLUB

A meeting of the Rand Medical Discussion Club will take place on Wednesday, 28 April 1954, at the Harveian Lecture Theatre, Medical School, Johannesburg, at 8.15 p.m. Dr. J. Nicholson will speak on *The Effect of Modern Anaesthetics on the General Practitioner*. Dr. J. Friedman will speak on *Post-Mortem aspects of Death Occurring in Relation to Anaesthesia*.

UNION DEPARTMENT OF HEALTH BULLETIN

Report for the 7 days ended Thursday 1 April 1954.

Plague. *Smallpox*. Nil.

Typhus Fever. *Cape Province*. One (1) Native case in the Stutterheim municipal area. Diagnosis confirmed by laboratory tests.

Epidemic Diseases in other Countries.

Plague in Moulmein (Burma).

Cholera in Chalna, Dacca (Pakistan); Calcutta (India).

Smallpox in Suez (Egypt); Hargeisa (British Somaliland); Mogadiscio (Somalia); Dacca, Karachi (Pakistan); Allahabad, Bombay, Calcutta, Cochin, Delhi, Kanpur, Madras, Nagapattinam (India); Haiphong, Hanoi, Saigon-Cholon (Viet-Nam); Phnom-Penh (Cambodia).

Typhus Fever in Cairo (Egypt); Mosul, Bagdad (Iraq).

BOOK REVIEWS : BOEKRESENSIES

SKIN GRAFTS

Reactions of Healing Wounds and Granulation Tissue in Man to Auto-Thiersch, Autodermal and Homodermal Grafts. By Theodore Gillman, M.Sc., M.B., B.Ch., Jack Penn, M.B.E., M.B., B.Ch., F.R.C.S.E., Doris Bronks, B.Sc., M.B., B.Ch., Marie Roux, Theatre Sister. (Pp. 223 with 95 figures. Reprinted from the *British Journal of Plastic Surgery*, Vol. VI., No. 3, October 1953, page 153.

For the purpose of this investigation a group of volunteers was selected. They were all Europeans, representing widely differing races i.e. South African English, South African Afrikaans, Australian, Greek and Jewish.

The technique of the experiments and investigations consisted in the taking of Thiersch or 'split-skin' grafts, about 6 inch by

INTERNATIONAL CONGRESSES IN SPAIN

The Executive of the South African National Tuberculosis Association announces that Dr. B. A. Dormer and Dr. D. P. Marais are official delegates from the Union to the 13th Congress of the International Union against Tuberculosis, to be held in Madrid from 26 September to 1 October 1954, and also to the 3rd. International Congress of the American College of Chest Physicians, to be held in Barcelona on 4-8 October 1954.

Anyone desirous of taking part in these Conferences should communicate at once with Dr. D. P. Marais, Southern Life Building, Cape Town, who is 'Regent' (Controller) of the College in South Africa.

CONFERENCE ON THROMBOSIS AND EMBOLISM

An International Conference on Thrombosis and Embolism will be held in Basle, Switzerland, on 20-24 July 1954, under the patronage of Swiss governmental, university and medical organizations. The subject of coagulation, thrombosis and embolism will be discussed under the following headings: (i) physiology and pathophysiology; (ii) etiology and pathogenesis; (iii) pathological anatomy; (iv) symptomatology; (v-viii) therapy—conservative, surgical, anticoagulation, fibrinolytic; (ix) lung embolism; (x) prophylaxis; (xi) statistics and (xii) related fields. Particulars can be obtained from the General Secretary, Gynaecological Clinic, Basle University, Basle, Switzerland.

The Conference will be followed by the International Congress of Gynaecology and Obstetrics, to be held in Geneva on 26-31 July 1954.

WOMEN'S MEDICAL SOCIETY MEETING

The Annual General Meeting of the Cape Town Group of the Womens Medical Society of South Africa will be held at Medical House, Wale Street, on 26 April at 5.15 p.m. All Medical women are invited to attend. A short discussion on 'The Position of Women in Medicine' will follow.

Mr. J. Lannon, F.R.C.S., of Johannesburg, left on 4 April for a 4 months visit to the United States, and during his stay there will study Cardio-vascular Surgery.

S.A. MEDICAL CONGRESS 21-26 JUNE 1954, PORT ELIZABETH

Members are reminded that if they intend being present at the South African Medical Congress to be held in Port Elizabeth from 21 to 26 June 1954, they should complete the intention cards which were recently sent to them and return them as soon as possible to the Organizing Secretary, South African Medical Congress 1954, P.O. Box 1137, Port Elizabeth.

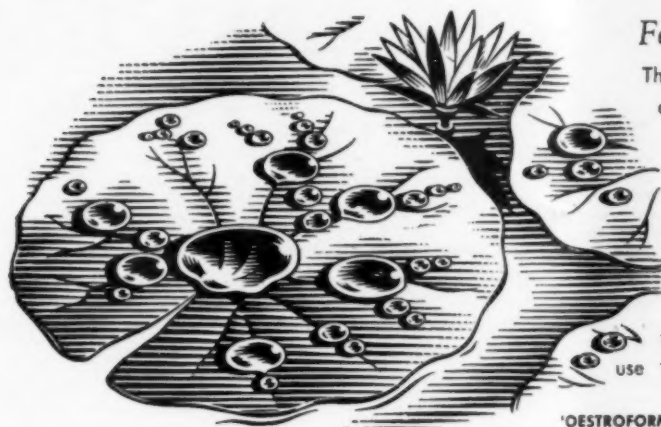
4 inch, from the inner side of the upper arm of each volunteer of this group.

The site from which the Thiersch graft was removed, was divided into 5 areas. On one area an auto-Thiersch graft was applied. On another an autodermal graft was applied. On the remaining areas homodermal grafts from 3 of the other volunteers were applied.

The dermal grafts were prepared by soaking a portion of the Thiersch graft in a trypsin solution, which causes the epithelium to become detached. After removal of the epithelium the remaining dermis was applied to the donor area as a dermal graft.

Biopsies were taken from the grafted areas for microscopic section over periods varying from 7 to 80 days. Examination of the Thiersch grafts taken from the volunteers showed that the sections had, in all cases, extended below the epithelial layers and the only epithelial elements remaining in the donor areas were the sebaceous glands and their ducts, hair follicles, and sweat glands and their ducts.

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Healing of untreated Thiersch donor sites.

The first investigations undertaken consisted of the examination of the healing of the untreated donor sites from which the grafts had been taken. The material for this study was obtained by biopsies at repeated intervals.

After the removal of the Thiersch graft a certain amount of bleeding takes place and the area becomes covered by a thin blood clot. The clot is rapidly invaded by round cells and polymorphs and is soon converted into granulations. The epithelium from the normal skin at the periphery of the donor area, rapidly grows over this granulation tissue, assisted by contributions from the sebaceous glands and hair follicles. The sweat glands appear to take little if any, part in the repair.

The epithelium formed is thicker than normal and shows downgrowths resembling the rete pegs of normal skin and epithelial pearls are common, while blocked dilated sweat glands and sebaceous glands are frequently seen.

Reactions of Thiersch donor sites and granulating tissue to Auto-Thiersch grafts.

The auto-Thiersch graft when placed on the donor site is, of necessity, separated from the host tissue by a thin film of clotted blood. This is not absorbed but, as in other wounds, is converted into granulation tissue.

The appearance of these grafts, in 9 days, showed three distinct layers: (1) the overlying epithelium and dermis of the Thiersch graft; (2) a layer of new granulations; and (3) organised fibres of the recipient dermis.

There was distinct hypertrophy of the stratum granulosum and marked keratinization of the epithelium. Microscopically small scales frequently peel off the graft. Definite downgrowths of epithelium from the graft take place, with the formation of epithelial spurs and epithelial pearls. The sweat glands, as usual, make little contribution to the development of epithelium, but several showed cyst-like dilatations due to obstruction of their ducts.

Reactions of Thiersch donor sites to dermal grafts.

The dermal grafts consisted of the dermis after the epithelium had been removed by trypsin. The only epithelial elements they contained were hair follicles, sweat and sebaceous glands and portions of their ducts. Both the autodermal and homodermal grafts all took and none of them sloughed off at any time. The host's reactions to both were very similar. The host epithelium grew from the periphery, not only over their surface, but also under their deep surface, gradually penetrating their substance until they were, practically, replaced by epithelium. If anything, the homodermal grafts stimulated the host's epithelial reaction to a greater extent than the autografts.

The degree of epithelial stimulation which follows the application of grafts, particularly dermal grafts, introduces interesting speculation regarding the development of epithelioma. The mitotic figures, epithelial pearls, and cell nests and downgrowths of epithelium closely resemble those of epithelioma and the author questions whether carcinoma may not occur from stimulation, following changes in the dermis rather than from causes originating in the epidermis itself.

Keloid formation is also considered and the interesting point made that large superficial skin injuries, such as removal of extensive split-skin grafts, are not followed by scars, unless the skin is taken too deeply, whereas even a small vertical incision, through the skin heals with a definite scar. Similarly large abrasions usually heal with little, if any, scarring.

The relation of vitamin C and ACTH in keloid formation is discussed, but no definite conclusion can yet be drawn.

The whole paper is stimulating and certain questions automatically present themselves to the reviewer. If the take of homodermal grafts is as satisfactory as this investigation suggests, and if they are merely replaced by epithelium, may they not have a definite place in the treatment of extensive skin burns; for most surgeons have been disappointed in the results of homo-Thiersch grafts, which so often, after an apparently good take, just disappear in the course of 3 or 4 weeks.

The investigation has covered a large field and has been generously illustrated by figures and 95 micro-photographs of a very high order.

The authors have made a valuable contribution to the minute anatomy of skin grafting.

N.P.

THE TOXAEMIAS OF PREGNANCY

Toxaemias of Pregnancy. By John Sophian, M.D. (Lond.), F.R.C.S. (Eng.), M.R.C.P. (Lond.), M.R.C.O.G. (P. 231 + xiii, with illustrations. £1 10s.) London: Butterworth & Co. (Publishers), Ltd. South African office: Butterworths & Co. (Africa), Ltd., Durban, 1953.

Contents: 1. Embryology and Anatomy. 2. Physiology. 3. Trueta Mechanism in Relation to the Utero-Renal Reflex. 4. Renal Function. 5. Renal Function in Toxaemia. 6. A Consideration of the Factors Bearing on Toxaemia of Pregnancy. 7. Hypertension. 8. The Eclamptic Complication. 9. The Treatment of Pregnancy Toxaemia. 10. Concealed Accidental Haemorrhage. 11. Anuria. Postscript. Index.

Sophian has pursued his thesis of the causation of toxemia of pregnancy with persistence and vigour. The theory of the utero-renal reflex leading to a Trueta-type shunt in the kidneys is well thought out and supported by a great weight of evidence. One or two difficulties in the full and complete acceptance of the theory are pointed out by F. J. Browne in the foreword.

Embryology, anatomy and physiology are neatly handled and pertinent to subsequent argument. The mechanism of the utero-renal reflex and subsequent Trueta shunt in the kidneys is well developed.

Renal function, normal and toxemic, is covered and some discrepancies are brought to light. Theories of toxemia are reviewed and given brief discussion.

Strong argument in favour of his thesis is brought to bear under the heading of hypertension, and it is emphasized that the triad of toxemia symptoms — retention of salt and water, elevation of blood pressure, and albuminuria — is adequately explained by shut-down of the kidney. Under eclampsia, the research into abnormal or epileptiform encephalographic patterns is noted and put forward as a basis of prediction.

Treatment is dealt with on the usual basis of prophylaxis, drugs, hormones and other methods; and the author stresses the value of the exchange-resins and comes out strongly in favour of conduction anaesthesia, the favourable results of which lend weight to his theory.

Anuria is explained and treatment discussed. This chapter was most interesting. There is a very apt last paragraph to the postscript.

A work of this nature does not easily lend itself to review. The tendency to include a mass of irrelevant data is pleasantly lacking, although some parts are heavy-going. It makes one think, and in the reviewer's opinion all those engaged in obstetrics, particularly on the teaching side, should read this work.

A.C.N.

SYNOPSIS OF CHILDREN'S DISEASES.

A Synopsis of Children's Diseases. By John Rendle-Short, M.A., M.B., M.R.C.P., D.C.H. (Pp. 608 + xii. 32s. 6d.) Bristol: John Wright & Sons, Ltd., 1953.

Contents: Part I. The Healthy Child. Part II. The Sick Child. 1. General Factors. 2. The Neonatal Period. 3. The Infectious Diseases. 4. Diseases of Nutrition. 5. Diseases of the Respiratory System. 6. The Alimentary System. 7. The Cardiovascular System. 8. Diseases of the Nervous System. 9. Psychological Disorders. 10. Diseases of the Genito-Urinary System. 11. Diseases of the Blood. 12. Diseases of Lymph-Nodes. 13. Diseases of Liver and Biliary System. 14. Diseases of Bone and Joint. 15. Diseases of Muscles. 16. Diseases of Skin. 17. Diseases of Endocrine System. 18. Allergic Diseases. 19. Inborn Errors of Metabolism. 20. Venereal Diseases. 21. Accidents in Childhood.

This synopsis is well produced, well arranged and packed with facts in tabular form. It is suitable for students who wish to revise a disease quickly for examination purposes; or for the practitioner who wishes to determine a differential diagnosis or obtain a concise picture of a clinical entity. Treatments are clearly set out and the opposing points of view in contentious matters are well discussed within the confines of the synoptic style.

The use of antibiotics is tabulated under diseases and again with commoner drugs in an appendix. Normal values for blood cytology, normal biochemical values etc. are quoted in a second appendix. Criteria for the development of the normal child are set out in the first chapter. Ante-natal and post-natal care of the infant, both full-time and premature, are clearly dealt with. There is a useful section on burns and gastro-enteritis. There are only a few illustrations and no photographs.

It may be strongly recommended to students and general practitioners, who feel the need for a clear exposition of the salient points of children's diseases, but not of course for reading as a text-book.

P.V.S.

COLLECTION OF BIOCHEMICAL SPECIMENS

Biochemical Tests. Notes on the Collection of Specimens with the Values to be Expected in Normal Subjects. From the Biochemical Department, The South African Institute for Medical Research, Johannesburg. (Pp. 32) Johannesburg: The South African Institute for Medical Research, 1953.

The practical importance of the proper collection of the material required for biochemical investigations can hardly be over-emphasized. If the material is not collected at the laboratory the collaboration of the practitioner in taking the specimen in the right way and in sufficient quantity, and in taking the precautions necessary for its safe and speedy delivery, is of the very first im-

portance. The laboratory can sometimes tell that a specimen is useless for the investigation requested and the consequent trouble to all concerned in getting another sample is sufficiently annoying; but worse still are the erroneous reports obtained by careful analysis of stale or unsuitable specimens when the possibility of such error cannot be suspected by the biochemist.

This pamphlet has been published by the Biochemical Department of the South African Institute for Medical Research to guide their clientele and others in these essentials. It is a practical appendix to the small book on the interpretation of biochemical tests which was published by the Institute in 1952. The advice is sound and practical.

G.C.L.

BRIEFERUBRIEK : CORRESPONDENCE

PART-TIME DISTRICT SURGEONS' FEES

To the Editor: For 3 years now the Part-time District Surgeons' Society has been negotiating with the Department of Health on the subject of the increase in part-time District Surgeons' fees. Precisely NOTHING has been achieved.

These fees were laid down in 1925 and have never been increased. It is time for the part-time District Surgeons to realize that the Government Departments concerned will keep them on the string for another 3-30 years, while the part-time District Surgeons do the work—unpaid. In other words it is time for them to hand the matter over to the Medical Association as a whole for immediate and firm action.

We, the part-time District Surgeons, are doing work now for fees laid down 29 years ago and never since adjusted. We shall not be paid out in retrospect—if the fees are revised in the next 3-30 years—nor will our families be paid out in retrospect. It is therefore essential that the fees should be modified and that they should be modified now.

The part-time District Surgeons play an essential part in the dealing out of justice in this land. It is high time that they were given the justice that is their due.

J. L. D. Paisley

P.O. Box 31
Cala, C.P.

KWASHIORKOR

To the Editor: Dr. Gelfand,¹ in describing a case of kwashiorkor in a breast-fed infant, makes a moderate plea for not discarding the theory of vitamin deficiency in this disease in favour of protein deficiency. He suggests that the case he describes supports his plea. The case he quotes, however, does not contribute any real evidence against the theory of protein deficiency.

1. The child is 15 months old. We do not know its weight nor the quantity of breast milk that was available to it. From our experience in Alexandra, breast feeding alone, even together with supplements of maize and occasional 'gravy', is not sufficient in a baby of that age to prevent the onset of signs of malnutrition. The signs we rely on here in deciding the nutritional state are:

- (a) failure to gain weight or actual loss of weight (all babies here are weighed at each visit as a routine);
- (b) clinical signs such as irritability and apathy, changes in the hair, skin and mucous membranes, and oedema; and
- (c) the exclusion of other disease.

While these signs may not be reliable singly or at a single observation, they can be regarded as a good index if their development is observed over a period of time, and if they are reversed by appropriate treatment. While we cannot quote offhand a specific instance of full-blown kwashiorkor developing in a breast-fed baby, very many babies still on the breast and over a year of age do show signs of malnutrition. These changes may be reversed by giving protein supplements of skim milk or whole milk without additional vitamins.

2. The history of onset in Dr. Gelfand's case is of vomiting and diarrhoea for a month. While this may have been the onset of kwashiorkor itself, it may as well have been the precipitating factor

in a baby already malnourished. Acute illnesses often precipitate the full-blown syndrome of kwashiorkor; gastro-enteritis especially would have favoured its onset.

3. The work of Hytten² indicates a wide variation in the protein content and volume of breast milk; as is well known, it is not infrequent that an infant, although taking feeds well, may fail to thrive on breast milk alone. On the basis of his careful studies, Hytten concluded that as many as 20% of lactating mothers might have insufficient calories to supply the needs of an 11-lb. baby.

4. It is still open to doubt whether pellagra in adults is a specific vitamin deficiency, as Dr. Gelfand implies. Patients respond as well to full diet as to specific high-dosage vitamin therapy. In fact, it is our clinical impression in out-patient practice that, while nicotinic acid will often relieve acute manifestations of pellagra such as mental confusion, it often does not improve some of the more chronic changes in the skin, mucous membranes and sebaceous glands, unless there is a radical change in diet. Pellagra may be primarily a disease of protein deficiency or multiple deficiency, and not of a specific vitamin deficiency.

The Gillmans³ show how complex are the inter-relations in nutritional disease. It may not only require the absence of specific substances to produce nutritional signs but also the presence of others; and any one nutritional state may depend on several inter-related factors.

We may conclude that, while the etiology of kwashiorkor is not fully established, protein deficiency is implicated as a main factor in the development of this symptom-complex. Trowell reasons that deficiency of protein in the diet, constantly low plasma proteins, lowered activity of the duodenal enzymes, and in addition, the excellent response of the syndrome to protein administered orally and intravenously, combine to implicate protein deficiency as an etiological agent. The fact that kwashiorkor may develop in breast-fed infants does not absolve protein deficiency from an etiological role. Mother's milk may be deficient for the needs of an infant after a certain stage of growth has been reached.

We should not forget, however, that most cases of kwashiorkor in our urban areas are due to socio-economic factors⁴. Nearly all are 'Granny's babies', where the mother is forced to work, or where the home is broken up. The origins of the disease lie in the disruptive social forces of our industrial revolution, and the disease will largely disappear with a more stable, productive, skilled and better-paid working-class. We would however support the plea made by Dr. Gelfand for full and detailed observation of diet in the homes, with a view to proving the etiology of kwashiorkor.

Alexandra Health Centre

and University Clinic,

P.O. Bergvlei

Johannesburg

31 March 1954

M. W. Susser

Z. A. Stein

M. K. S. Hathorn

M. A. Cormack

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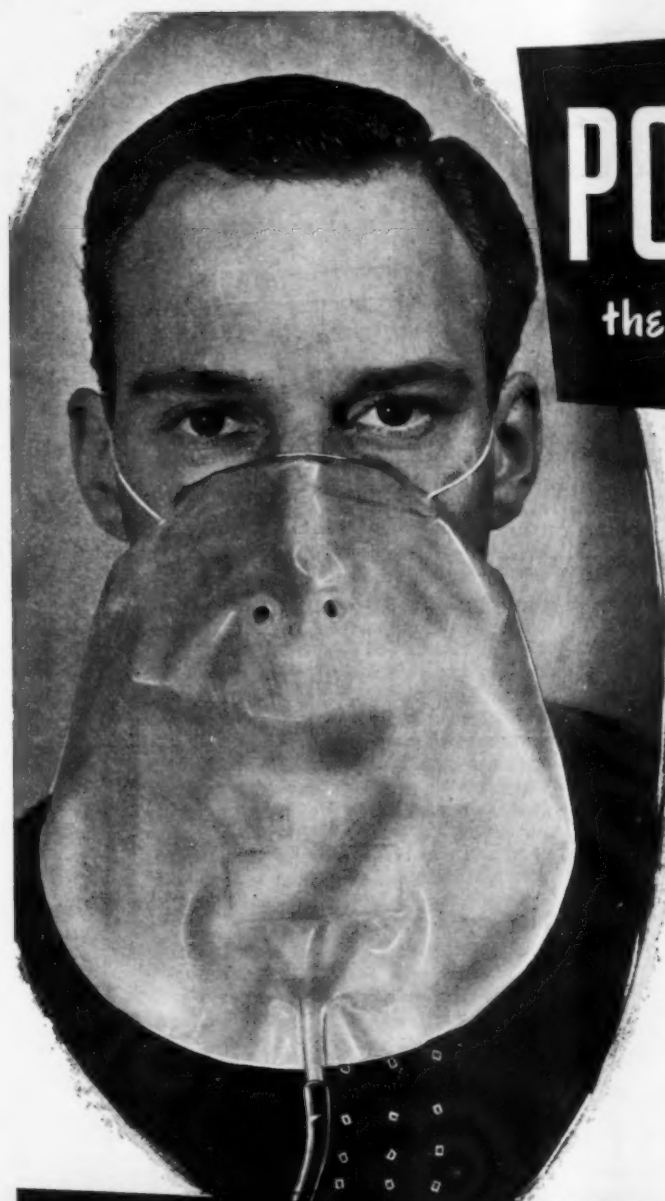
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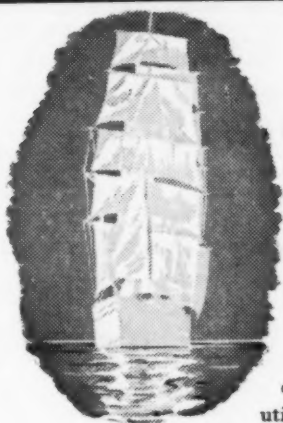
Reports for doctors overseas

The makers of Ribena co-operated extensively with the Ministries of Food and Health during the war, a co-operation which still goes on to some extent even now. The Royal Forest Factory has attached to it a series of very fine laboratories where research into fruit juices and vitamins is conducted to an academic level, under the direction of an expert lately in charge of the Fruit Products Section of the University of Bristol Agricultural Research Station. Reports of much of the work done are available, on application, to doctors and scientists overseas. These are likely to be of particular interest now that Ribena is being extensively exported.

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Bydraes

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Stuur dit aan

Die Erepenningmeester

Mediese Vereniging van Suid-Afrika

Posbus 643

Kaapstad

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which will be gratefully received

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The Honorary Treasurer

Medical Association of South Africa

P.O. Box 643

Cape Town

Die Mediese Vereniging van Suid-Afrika The Medical Association of South Africa

AGENTSAP-AFDELING : AGENCY DEPARTMENT

KAAPSTAD : CAPE TOWN

Posbus 643, Telefoon 2-6177 : P.O. Box 643, Telephone 2-6177

PRAKTYKE TE KOOP : PRACTICES FOR SALE

(1539) Noord-Kaapland. Goedgevestigde praktyk met kontant-inkomste vir die laaste boekjaar van £2,378. Premie £1,250, insluitende medisynes, instrumente en spreekkamermeubels. Spoorwegaanstelling. Woning en spreekkamers teen geringe huur-geld. Terme vir afbetaling ± £750 kontant, balans £20 p.m.
(1641) Transkei. Well-established practice. D.S. appointment approx. £1,000 p.a. Income over £300 net per month. Large 10-roomed house. Easy terms could be arranged.

OPHTHALMIC PRACTICE FOR SALE

(1325) Excellent practice with 2 appointments.

ASSISTENTE/PLAASVERVANGERS VERLANG ASSISTANTS/LOCUMS REQUIRED

(1620) South Western Cape. Locum for ± two months. Salary £2 12s. 6d. per day free board and lodging and 1s. per mile motor expenses. Own car necessary. Single man.
(1622) Noord-Kaapland. Assistent so spoedig moontlik. Voorlopig lang termyn, later moontlikheid van vennootskap. Salaris-£100 p.m. + vry petrol, olie en losies. (Kwoteer ook 1584)

ROOMS AVAILABLE TO SHARE

(1618) (1422) (1579) in Cape Town. Available on temporary or permanent basis.

SPECIALIST PHYSICIAN

(895) Partnership share offered for sale. Details on application.

INSTRUMENTS FOR SALE

Full list on application.

JOHANNESBURG

Medical House, 5 Esselen Street, Telephone 44-9134-5, 44-0817
Mediese Huis, Esselenstraat 5, Telefoon 44-9134-5, 44-0817

PRACTICES AND PARTNERSHIPS FOR SALE PRAKTYKE EN VENNOOTSAPPE TE KOOP

(P/025) A Jewish partner is required for a well-established Eastern Transvaal practice. Hospital facilities. Premium reduced and terms could be arranged.

(Pr/S111) Oos-Transvaal. Ongeopponeerde praktyk met D.G.-aanstelling. Jaarlikse inkomste £4,800. Groot huis, met spreekkamers, word te koop aangebied. Praktyk geskik vir twee geneesheer.

(Pr/S113) Johannesburg. Small practice in excellent position. Turnover £120 p.m. The premium is £250 and includes drugs, furniture, instruments and venetian blinds.

(Pr/S114) Johannesburg. Old-established practice covering Northern Suburbs. One appointment. Low rental and expenses. Knowledge of Afrikaans not essential.

(Pr/S115) Johannesburg. HELFTE AANDEEL te koop in ougevestigde vennootskapspraktyk. Jaarlikse inkomste £3,000 NETTO per vennoot. Eersterangse praktyk, uiters geskik vir 'n Afrikaanse geneesheer wat hom in die stad wil vestig.

(Pr/S116) Reef hospital town. HALF SHARE for sale in leading partnership practice, with various appointments. Annual NET income per partner £2,600/£2,800. All surgery is undertaken. Buyer must be a bilingual gentile.

(P/031) HALF SHARE offered in exceptionally high-class JOHANNESBURG practice. Will suit doctor with additional qualifications—Medicine or Pediatrics.

INSTRUMENTS FOR SALE

(I/051) Siemens Ultra-therm, shortwave, has done 179 hours. New valve recently. £120.

(I/058) (i) Leitz Cystoscope. Hardly ever been used. One channel for catheter only. Complete with catheters in very good working order. £20. (ii) Portable Minnitt. Gas-Air anaesthetic apparatus as used in midwifery, with extra bag attachment. Good as new. £25.

(I/060) Siemens Heliosphere X-ray. Very little used. Perfect condition. Price £300 O.N.O.

(I/061) Books on psychiatry. Lists on application.

(I/062) Portable electrocardiograph, with unipolar attachment, battery operated. Excellent condition. £150.

(I/064) Second-hand instruments. List on application. £35 O.N.O.

(I/065) Bausch and Lomb microscope. £60.

(I/059) Goldmann (Haag-Streit) Perimeter. As new. Price £250 O.N.O.

DURBAN

112 Medical Centre, Field Street. Telephone 2-4049

PRACTICE FOR SALE

(PD24) Natal South Coast. Practice suitable for doctor who does not want full-time work. £250 for drugs, dressings instruments, etc. No charge for goodwill. Small house on ½ morgen, £1,600. Immediate occupation.

(PD25) Durban. House and practice available, suitable for a surgeon. Details on application.

LOCUMS URGENTLY REQUIRED

(LM3) Locum required, Natal South Coast, as soon as possible, for approximately one month. £85 all found. Mixed general practice, about 80% non-European. Not much travelling, very few night calls and only minor surgery.

(LM4) Wartburg, Natal. Locum for three weeks, as soon as possible. £2 12s. 6d. per day, all found, plus car allowance. Mixed country practice.

LOCUMS REQUIRED

ASSISTANTS/LOCUMS REQUIRED

(LM5) Camperdown, Natal. Locum from about 25 March for one month. £2 12s. 6d. per day, all found. Car provided, if necessary.

(LM5) Pietermaritzburg. Locum from about 27 March until 16 April. £2 12s. 6d. per day, all found. Car allowance.

(LM6) Partnership practice in hospital town, Zululand. Locum required for month of May. £2 12s. 6d. per day, all found, plus car allowance.

(LM7) Zululand. Locum from about 15 May for six weeks. £3 5s. per day, free board and lodging, and £10 per month car allowance.

(LM8) Natal country partnership practice. Locum required from approximately 26 June to 26 July. £2 12s. 6d. per day, all found, plus travelling allowance.

(LM9) Natal South Coast. Locum required for July. £3 3s. per day, all found. Must have own car. General mixed country practice.

ASSISTANTS REQUIRED

(AM1) Assistant required in general mixed practice near Durban, as soon as possible, must be experienced and fully bilingual. House available. Possibility of partnership. Full details on request.

(AM2) Assistant required for trial period. If suitable, partnership will be offered. General practice in select area approximately 20 miles from Durban.

ASSISTANTSHIP REQUIRED

(AR1) Young married doctor, qualified 8 years, experience in obstetrics and gynaecology and surgery, seeks assistantship with view to partnership in general practice.

ASSISTANT REQUIRED

Assistant with view to partnership required as soon as possible. Large general practice in Southern Rhodesian hospital town. Experience in anaesthetics essential. Surgical experience advantageous but not essential. Higher qualification preferred. Commencing salary £120 per month. Applications to Medico, P.O. Box 1525, Bulawayo.

Provincial Administration of the Cape of Good Hope

UNIVERSITY OF CAPE TOWN :

JOINT MEDICAL STAFF FOR GROOTE SCHUUR AND OTHER TEACHING HOSPITALS
VACANCIES

1. Applications are invited from registered Medical Practitioners (registered Specialists) for appointment to the following posts:
Department of Anaesthesia:

- 1 post of Medical Practitioner, Grade F—Salary £164 per annum per session (1 session)
- 1 post of Medical Practitioner, Grade E—Salary £146 per annum per session (1 session)

2. The conditions of service are prescribed in terms of Hospital Board Service Ordinance No. 19 of 1941, as amended, and the regulations framed thereunder.

3. The Joint Medical Staff is required to serve jointly the Provincial Administration of the Cape of Good Hope and the University of Cape Town.

4. Candidates are required to have not less than three years experience after registration as a Specialist in the speciality in which the vacancy exists.

5. Candidates should state whether they wish to be considered for the "E" Grade should their application for the "F" Grade prove unsuccessful.

6. A session shall be four hours per week, not necessarily continuous clinical and/or teaching work. The hours of duty are Mondays and Thursdays, respectively.

7. Application must be made on the prescribed form, Staff 23, which is obtainable from the Director of Hospital Services, P.O. Box 2060, Cape Town, or from the Medical Superintendent of any provincial hospital or Secretary of any School Board in the Cape Province.

8. The completed application forms must be addressed to the Director of Hospital Services, P.O. Box 2060, Cape Town, and must reach him not later than 28 April 1954. Candidates must state the earliest date on which they can assume duty.

(M 127074)

Natal Provincial Administration

VACANCY :

MEDICAL SUPERINTENDENT, LADYSMITH HOSPITAL

Applications are invited from registered Medical Practitioners with considerable clinical experience for appointment to the above post.

Salary: £1300 x 50—£1500 per annum.

Cost of Living Allowance: Single — £100 per annum.
Married— £320 per annum.

Applications, giving full details of experience and qualifications should reach the Director, Provincial Medical and Health Services, P.O. Box 20, Pietermaritzburg, not later than 28 April 1954.

(AD 8063)

O.F.S. Provincial Administration

VOORTREKKER HOSPITAL
KROONSTAD

VACANCIES FOR INTERNS

Applications are invited to fill existing vacancies for the posts of Interns and House Surgeons.

Salary scale Interns: £240 p.a. plus c.o.l. allowance.

Salary scale House Surgeons: £300 p.a. plus c.o.l. and free board and lodging.

F. A. van Coller
Medical Superintendent

Kroonstad
30/3/54

(A43299)

Provinsiale Administrasie van die Kaap die Goeie Hoop

UNIVERSITEIT VAN KAAPSTAD :

GESAMENTLIKE MEDIESE PERSONEEL VIR GROOTE SCHUUR EN ANDER OPLEIDINGSHOSPITALE
VAKATURES

1. Aansoeke word ingewag van geregistreerde Geneeshere (geregistreerde spesialiste) vir aanstelling tot die volgende poste:

Departement van Narkose:

- 1 pos van Geneesheer, Graad F—Salaris £164 per jaar per sessie (1 sessie)
- 1 pos van Geneesheer, Graad E—Salaris £146 per jaar per sessie (1 sessie)

2. Die diensvoorwaardes word voorgeskryf ingevolge die Ordonnansie op Hospitaalraadsdiens nr. 19 van 1941, soos gewysig, en die regulasies wat daarkragtens opgestel is.

3. Die Gesamentlike Mediese Personeel word vereis om die Provinsiale Administrasie van die Kaap die Goeie Hoop en die Universiteit van Kaapstad gesamentlik te dien.

4. Kandidate moet minstens drie jaar ondervinding na registrasie as 'n Spesialis in die spesialiteit waarin die vakature bestaan, opgedoen het.

5. Kandidate moet meld of hulle in aanmerking geneem wil word vir die "E" Graad indien hulle aansoeke vir die "F" Graad nie suksesvol is nie.

6. 'n Sessie is vier uur per week in verband met kliniese en/of opleidingswerk, maar is nie noodwendig onafgebroke nie. Die ure van diens is Maandae en Donderdae, onderskeidelik.

7. Aansoek moet gedoen word op die voorgeskrewe vorm (Staf 23), wat verkrygbaar is by die Direkteur van Hospitaaldienste, Posbus 2060, Kaapstad, of by die Mediese Superintendent van enige provinsiale hospitaal of by die Sekretaris van enige Skoolraad in die Kaapprovinsie.

8. Die ingevulde aansoekvorme moet aan die Direkteur van Hospitaaldienste, Posbus 2060, Kaapstad, gerig word en moet hom uiters op 28 April 1954 bereik. Kandidate moet die vroegste datum meld waarop hulle diens kan aanvaar.

(M 127074)

Natalse Provinsiale Administrasie

VAKATURE :

GENEESHEER-SUPERINTENDENT :
LADYSMITH-HOSPITAAL

Aansoeke word ingewag van geregistreerde praktiserende geneeshere met aansienlike kliniese ondervinding vir aanstelling in die bogenoemde betrekking.

Salarisskaal: £1300 x 50-1500 per jaar.

Duurtetoelag: Ongetroud — £100 per jaar.
Getroud — £320 per jaar.

Aansoeke met volledige besonderhede betreffende ervaring en kwalifikasies moet aan die Direkteur van Provinsiale Mediese en Gesondheidsdienste, Posbus 20, Pietermaritzburg, gerig word, sodat hulle hom voor of op 28 April 1954 bereik.

(AD. 8063)

O.V.S. Provinsiale Administrasie

VOORTREKKER-HOSPITAAL
KROONSTAD

VAKATURES—INTERNS

Aansoeke word ingewag vir genoemde vakatures vir die pos Intern en Huisdokters.

Salarisskaal Intern: £240 p.j. plus lewenskoste.

Salarisskaal Huisdokters: £300 p.j. plus lewenskoste, plus vry inwoning.

F. A. van Coller
Geneesheer-Direkteur

Kroonstad
30/3/54

(A43299)

P.N. 553/1953.)

(3 July, 1953.)

The Administrator has made the subjoined regulations in terms of section *fifty-two* of Ordinance No. 18 of 1946, as amended.

REGULATIONS RELATING TO THE HONORARY MEDICAL STAFF OF PROVINCIAL HOSPITALS

1. *The members of the honorary medical staff and their duties*

The honorary medical staff of a provincial hospital shall consist of so many registered medical practitioners as may be determined by the Medical Superintendent, acting in consultation with the Hospital Board and the Medical Committee, if such committee already exists, and shall attend medically to all patients in the hospital who are not financially in a position to pay for the services of a medical practitioner.

2. *Appointment of the honorary medical staff*

Whenever it is necessary to appoint honorary medical staff for a provincial hospital the Medical Superintendent shall cause an advertisement in both official languages, calling for applications for the vacant post, to be placed in the *Provincial Gazette*, the *South African Medical Journal* and a newspaper or newspapers circulating in the area normally served by the hospital. All applications received shall be considered and decided upon by the Medical Superintendent, acting in consultation with the Hospital Board and the Medical Committee, if such committee already exists, provided that if the Medical Superintendent is himself an applicant the Hospital Board after consultation with the Medical Committee, if such committee already exists, shall consider and decide upon the applications.

3. *Qualifications for appointment to honorary medical staff*

In appointing honorary medical staff preference shall be given, all other things being equal, to medical practitioners who have been resident in the district normally served by the hospital for a period of at least one year. Where a hospital has been organised wholly or partly into separate specialised departments and the appointment is considered of honorary medical staff to serve in one of the specialised departments, preference shall be given, all other things being equal, to medical practitioners, who are registered specialists or who have obtained a degree or diploma equal to that of a registered specialist, in the appropriate speciality.

4. *Tenure of Office*

(a) Subject to the provisions of Regulation *five*, members of the honorary medical staff may be appointed for any period of time not exceeding five years.

(b) Nothing herein provided shall prevent the re-appointment of a member of the honorary medical staff after his period of service on the honorary medical staff has elapsed.

(c) Appointments to the honorary medical staff shall be terminable by either party upon the giving of three months' notice in writing of the intention to do so.

5. *Age qualification of members of the honorary medical staff*

No medical practitioner shall be appointed to the honorary medical staff if he is over the age of sixty years and every member of the honorary medical staff who attains the age of sixty years while he is serving on the honorary medical staff, shall retire therefrom on reaching that age, provided that:

(i) The services of any member of the honorary medical staff who reaches the age of sixty years while serving on such staff, may be retained by the Medical Superintendent, with the approval of the Hospital Board and the Medical Committee for a further period not exceeding the unexpired portion of the term for which he was appointed;

(ii) a medical practitioner who at the time of the promulgation of these regulations was serving on the honorary medical staff and who was at that time over the age of sixty years, may be re-appointed to serve as a member of the honorary medical staff until he reaches the age of sixty-five years;

(iii) the provisions of this regulation shall not apply where no or no sufficient number of properly qualified medical practitioners of less than sixty years of age are available for appointment to the honorary medical staff.

6. *Payment of honoraria to members of the honorary medical staff*

(a) Subject to the provisions of paragraph (b) of this regulation there shall be payable to the honorary medical staff an annual honorarium which shall be calculated by the Medical Superintendent, before the thirty-first day of March of each year, by multiplying the average daily number of in-patients treated in the hospital during the preceding calendar year by £10.

(b) The honorarium shall be distributed among members of the honorary medical staff in such a manner as the Medical Committee may by resolution determine, provided that no member of the honorary medical staff shall be apportioned more than £105 per annum.

(c) Where no Medical Committee has been constituted the distribution of the honorarium shall be determined by resolution of the members of the honorary medical staff.

7. *Distribution of work amongst members of the honorary medical staff*

The Medical Superintendent shall be responsible for the distribution of the work amongst the various members of the honorary medical staff.

8. *Letter of appointment setting out the duties of members of the honorary medical staff*

The Medical Superintendent shall furnish each member of the honorary medical staff with a letter of appointment setting out the duties attaching to the post as well as with a copy of these regulations.

9. *Review by Medical Committee of honorary medical establishment*

The Medical Committee shall include in its annual report to the Hospital Board such recommendations as it may wish to make in regard to the honorary medical establishment.

10. *Leave of absence*

If a member of the honorary medical staff desires leave of absence he shall notify the Medical Superintendent accordingly and arrange to the satisfaction of the Medical Superintendent for the performance of his duties during his absence.

11. *Settlement of disputes*

All disputes arising as to the interpretation, scope or application of these regulations shall be referred to the Director of Hospital Services whose decision shall be final.

12. *Honorary medical staff to be appointed in terms of these regulations to take the place of the existing honorary medical staff*

Subject to the provisions of paragraph (c) of this regulation:

(a) An honorary medical staff shall, in terms of these regulations, be appointed for every provincial hospital within six months of the promulgation of these regulations.

(b) The appointment of such honorary medical staff shall automatically terminate the appointment of all members serving on the honorary medical staff established before the promulgation of these regulations.

(c) The Director of Hospital Services may exclude any hospital or part thereof from the provisions of this regulation.

(M 127075)

(P.K. 553/1953.)

(3 Julie 1953.)

Die Administrateur het kragtens artikel twee-en-veertig van Ordonnansie nr. 18 van 1946, soos gewysig, onderstaande regulasies gemaak.

REGULASIES INSAKE DIE ERE-MEDIESE PERSONEEL VAN PROVINSIALE HOSPITALE

1. Die lede van die ere-mediese personeel en hul pligte

Die ere-mediese personeel van 'n provinsiale hospitaal bestaan uit soveel geregistreerde geneeshere as wat die mediese superintendant bepaal, handelende in oorleg met die hospitaalraad en die mediese komitee, as so 'n komitee reeds bestaan, en hulle moet die geneeskundige behandeling onderneem van alle pasiënte in die hospitaal wat nie geldelik in staat is om vir die dienste van 'n geneesheer te betaal nie.

2. Aanstelling van die ere-mediese personeel

Wanneer dit ook al nodig is om ere-mediese personeel vir 'n provinsiale hospitaal aan te stel, laat die mediese superintendant 'n advertensie waarin aansoek om die vakante pos gevra word, in albei amptelike tale plaas in die *Provinsiale Koerant*, die *Suid-Afrikaanse Mediese Tydskrif*, en 'n nuusblad of nuusblaas wat gelees word in die gebied wat onder gewone omstandighede deur die hospitaal bedien word. Die mediese superintendant, handelende in oorleg met die hospitaalraad en die mediese komitee, as so 'n komitee reeds bestaan, oorweeg alle aansoek wat ontvang word en beslis daarvoor; met dien verstande dat as die mediese superintendant self 'n aansoeker is, die hospitaalraad, na oorleg met die mediese komitee, as so 'n komitee reeds bestaan, die aansoek oorweeg en daarvoor beslis.

3. Kwalifikasies vir aanstelling in ere-mediese personeel

By die aanstelling van ere-mediese personeel word voorkeur gegee, as alles origins gelyk is, aan geneeshere wat reeds vir 'n tydperk van minstens een jaar woonagtig is in die distrik wat onder gewone omstandighede deur die hospitaal bedien word. Waar 'n hospitaal geheel en al of gedeeltelik in afsonderlike gespesialiseerde departemente ingerig is, en die aanstelling van ere-mediese personeel om in een van die gespesialiseerde departemente te dien, oorweeg word, word voorkeur gegee, as alles origins gelyk is, aan geneeshere wat geregistreerde spesialiste is of wat 'n graad of diploma gelykwaardig aan dié van 'n geregistreerde spesialis verkry het in die besondere spesialiteit.

4. Ampsduur

(a) Behoudens die bepaling van regulasie vyf kan lede van die ere-mediese personeel vir enige tydperk van hoogstens vyf jaar aangestel word.

(b) Geen bepaling hiervan belet dat 'n lid van die ere-mediese personeel weer aangestel word nadat sy tydperk van diens in die ere-mediese personeel verstryk het nie.

(c) Aanstelling in die ere-mediese personeel kan deur enigeen van die partye beëindig word deur skriftelike kennisgewing van drie maande van die voorneme om dit te doen.

5. Kwalifikasie insake ouderdom van lede van die ere-mediese personeel

'n Geneesheer mag nie in die ere-mediese personeel aangestel word as hy ouer as sestig jaar is nie, en elke lid van die ere-mediese personeel wat die ouderdom van sestig jaar bereik terwyl hy in die ere-mediese personeel dien, moet daaruit tree sodra hy dié ouderdom bereik; met dien verstande dat—

(i) die dienste van 'n lid van die ere-mediese personeel wat die ouderdom van sestig jaar bereik terwyl hy in sodanige personeel dien, behou kan word deur die mediese superintendant, met die goedkeuring van die hospitaalraad en die mediese komitee, vir 'n verdere tydperk van hoogstens die onverstreke deel van die termyn waarvoor hy aangestel is;

(ii) 'n geneesheer wat ten tyde van die afkondiging van hierdie regulasies in die ere-mediese personeel dien en wat op dié tydstop bo die ouderdom van sestig jaar is, weer aangestel kan word om as lid van die ere-mediese personeel te dien totdat hy die ouderdom van vyf-en-sestig jaar bereik;

(iii) die bepaling van hierdie regulasie nie van toepassing is waar daar geen behoorlik gekwalifiseerde geneeshere of nie 'n voldoende aantal behoorlik gekwalifiseerde geneeshere onder die ouderdom van sestig jaar beskikbaar is vir aanstelling in die ere-mediese personeel nie.

6. Betaling van honorariums aan lede van die ere-mediese personeel

(a) Behoudens die bepaling van paragraaf (b) van hierdie regulasie is 'n jaarlikse honorarium aan die ere-mediese personeel betaalbaar, wat deur die mediese superintendant voor die een-en-dertigste dag van Maart van elke jaar bereken word deur die gemiddelde daaglikse getal binne pasiënte wat gedurende die voorafgaande kalenderjaar in die hospitaal behandel is, met £10 te vermenigvuldig.

(b) Die honorarium word onder lede van die ere-mediese personeel verdeel op die wyse wat die mediese komitee by besluit bepaal; met dien verstande dat geen lid van die ere-mediese personeel meer as £105 per jaar mag ontvang nie.

(c) Waar 'n mediese komitee nie saamgestel is nie, word die verdeling van die honorarium by besluit van die lede van die ere-mediese personeel bepaal.

7. Verdeling van werk onder lede van die ere-mediese personeel

Die mediese superintendant is verantwoordelik vir die verdeling van die werk onder die verskillende lede van die ere-mediese personeel.

8. Aanstellingsbrief waarin die pligte van lede van die ere-mediese personeel uiteengesit word

Die mediese superintendant verstrek aan elke lid van die ere-mediese personeel 'n aanstellingsbrief waarin die pligte verbonde aan die pos uiteengesit word, asook 'n eksemplaar van hierdie regulasies.

9. Hersiening deur mediese komitee van ere-mediese diensstaat

Die mediese komitee sluit in sy jaarlikse verslag aan die hospitaalraad die aanbevelings in wat hy wil doen met betrekking tot die ere-mediese diensstaat.

10. Afwesigheidsverlof

As 'n lid van die ere-mediese personeel afwesigheidsverlof verlang, moet hy die mediese superintendant dienoreenkomstig in kennis stel en skikkings tref tot genoeë van die mediese superintendant vir die uitvoering van sy pligte tydens sy afwesigheid.

11. Beslegting van geskille

Alle geskille wat ontstaan in verband met die uitleg, omvang of toepassing van hierdie regulasies, word verwys na die Direkteur van Hospitaaldienste, wie se beslissing afdoende is.

12. Ere-mediese personeel word kragtens hierdie regulasies aangestel om die bestaande ere-mediese personeel te vervang

Behoudens die bepaling van paragraaf (c) van hierdie regulasie—

(a) word 'n ere-mediese personeel binne ses maande van die afkondiging van hierdie regulasies ooreenkomstig hierdie regulasies vir elke provinsiale hospitaal aangestel;

(b) beëindig die aanstelling van sodanige ere-mediese personeel outomaties die aanstelling van alle lede wat diens doen in die ere-mediese personeel wat voor die afkondiging van hierdie regulasies ingestel is;

(c) kan die Direkteur van Hospitaaldienste enige hospitaal of deel daarvan van die bepaling van hierdie regulasie uitsluit.

(127075)

Siekfonds van die Suid-Afrikaanse Spoorweë en Hawens

AANSTELLING VAN SPOORWEGDOKTER : POTCHEFSTROOM

Aansoeke word ingewag van geregistreerde mediese praktisyne vir aanstelling in die betrekking van Spoorwegdokter, Potchefstroom, en die spoorwegtrajek Frederikstad (insl.) tot by Koeke-moer (uitsl.) en Potchefstroom tot by Klipdrif (insl.) teen 'n salaris van £772 per jaar, plus die gelde en toelaes wat in die regulasies van die Siekfonds voorgeskryf word en met die reg om privaats te praktiseer.

Die salaris is onderhewig aan wysiging in ooreenstemming met die sensus van lede wat op 1 April elke jaar afgeneem moet word. Die aanstelling geskied kragtens die regulasies van die Siekfonds en opsegging van dienste is onderworpe aan vier maande kennisgewing deur een van beide partye.

Die suksesvolle applikant moet te Potchefstroom woon, diens aanvaar op 'n datum wat gereël sal word, en sy pligte ooreenkomstig die regulasies van die Siekfonds uitvoer.

Aansoeke moet die Distriksekretaris, Distriksiekfondsraad, Kamer 340, Derde Verdieping, Nuwe Stasiegebou, Johannesburg, nie later as 10 Mei 1954 bereik nie, en applikante moet die volgende vermeld:

1. Volle naam
2. Kwalifikasies (waar en wanneer verkry)
3. Ondervinding (waar en wanneer verkry)
4. Datum van geboorte
5. Land van geboorte
6. Getrou of ongetrou
7. Of ten volle tweetalig
8. Of Suid-Afrikaanse burger
9. Watter staatsbetrekking beklee word, indien enige

Werwing deur of ten behoeve van enige applikant stel so 'n applikant bloot aan diskwalifikasie

Enige verdere besonderhede wat verlang word, kan op aanvraag van die Distriksekretaris by die bovermelde adres verkry word.

Johannesburg
20 Maart 1954

P. J. Klem
Hoofsekretaris

(15)

Municipality of Walmer

Municipal Notice No. 23 of 1954

VACANCY FOR PART-TIME MEDICAL OFFICER OF HEALTH

Applications are invited from qualified medical practitioners for the position of part-time Medical Officer of Health for the Municipality. Details of duties and remuneration applicable to the position may be had on application to the undersigned. The appointment is subject to the approval of the Union Department of Public Health.

The successful applicant will be required to commence duty on 1 June 1954; or as soon as possible thereafter.

Applications in sealed envelopes, endorsed "Part-time Medical Officer of Health", stating qualifications and experience in public health administration (if any) and date on which duties can be commenced, must be addressed to and reach the undersigned not later than 12 NOON on MONDAY, 10 MAY 1954.

Canvassing of Councillors, either directly or indirectly, will be a disqualification.

E. R. Bartlett
Town Clerk

Town Office, Walmer
2 April 1954

(8374)

PRACTICE FOR SALE

For sale in Southern Rhodesia a small specialist practice, capable of expansion in any direction. Equipped surgery available from 1 November. Accommodation also available. Incumbent retiring. Apply 'A.U.Z.', P.O. Box 643, Cape Town.

GENEESHEER VIR SENDINGHOSPITAAL

Applikasies word hiermee ingewag by ondergetekende vir die pos van geneesheer by Siloam Sendinghospitaal, Louis Trichardt. Salaris £1000 per jaar plus moderne woning vry.

Ds. G. C. P. v. d. Vyver, Maraisstraat 41, Baileys' Muckleneuk, Pretoria.

ASSISTANT URGENTLY REQUIRED

Required urgently for large inland centre, registered Obstetrician and Gynaecologist as assistant with definite view to partnership. Reply with full details to 'A.U.Y.', P.O. Box 643, Cape Town.

Local Health Commission

VACANCIES FOR ASSISTANT MEDICAL OFFICERS OF HEALTH

Applications are invited from registered Medical Practitioners possessing a recognized Diploma in Public Health or State Medicine to fill the above permanent pensionable positions on the salary grade £1000 x 50—£1150 per annum, plus cost-of-living allowance, which is at present:

Married officials: £352 per annum

Single officials: £176 16s. per annum.

Further particulars are obtainable from the undersigned on application.

The appointments and commencing salary are subject to the prior approval of the Minister for Health.

Applications in sealed envelopes addressed to the Secretary, Local Health Commission, and marked 'Application for Assistant Medical Officer of Health', will be received until NOON on MONDAY, 10 MAY 1954.

D. R. Donaldson
Secretary

Local Health Commission Offices
195 Longmarket Street
Pietermaritzburg
2 April 1954

(4175)

The Standard General Insurance Company Limited

JOHANNESBURG

Invites applications from Registered Medical Practitioners for appointment as Medical Officer to the Company. Duties will consist of assessments in the Life Department, inspecting Death Claims, and exercising control in respect to Sickness and Accident Claims which may arise. Salary by agreement.

Apply in the first instance, in confidence, to Personnel Manager, P.O. Box 4352, Johannesburg.

Holy Cross Maternity Hospital

(NON-EUROPEANS)

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SENIOR MEDICAL OFFICER (OBSTETRICIAN)

Applications are invited from duly registered medical practitioners for the above post.

Salary £1,200 x 50—£1,500 p.a. plus prevailing cost of living allowance. Applicants must be qualified by experience and training and must submit their applications stating age, qualifications, experience to the undersigned not later than 8 May 1954.

The Secretary
Holy Cross Hospital Board

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All authors are advised to consult *Medical Writing*, by Dr. M. Fishbein, formerly Editor of the *Journal of the American Medical Association*. The volume is obtainable from medical libraries in South Africa. It is published by the Blakiston Co., Philadelphia, U.S.A.

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Considerable delay in the publication of papers is often due to the fact that they are poorly prepared. Publication will be expedited if the following specifications are complied with:—

1. All copy should be typewritten (double or preferably triple spaced) with wide margins.

2. Tables, references, graphs, illustrations and legends for illustrations should be clearly identified and prepared on separate sheets.

3. All photographs should be glossy prints unmounted, untrimmed and unmarked. Authors' suggestions for trimming, etc., are most suitably indicated on a duplicate print or diagram.

4. In no circumstances should original X-ray films be forwarded. Glossy prints must be submitted.

5. Line drawings should be on white board, arranged to conserve vertical space. All lettering in diagrams and graphs should be indicated clearly in soft lead pencil, preferably on a duplicate specimen or diagram in rough. In no circumstances should lettering be inked in or typewritten on the figure or the graph. Illustrations should not exceed 12 inches \times 18 inches in size.

6. Figure numbers should be marked clearly on the back of each illustration, and in every case the top of the illustration should be indicated.

7. A limited but reasonable amount of illustrative and tabular matter is allowed free. Additional material of this sort may be allowed at cost, at the discretion of the Editor.

8. All references to the literature should be inserted in the text as a superior number and listed at the end of the article in numerical order.

9. References must conform to the following convention (journal titles being abbreviated according to the *World List of Scientific Periodicals*):—

White, J. and Brown, A. B. (1946): *Arch. Clin. Med.*, **123**, 167. Books should be cited as follows:—

Smith, J. (1946): *An Introduction to Medicine*, 2nd ed., p. 174. Cape Town: John Black, Ltd.

10. All numerals to be printed as figures (i.e. *not* spelt out). For 'one' or '1' always follow copy. All numerals always to be spelt out in full at the beginning of a sentence.

11. Cubic centimetre as c.c.; Cubic millimetre as c.mm.; 7.11.46 as 7 November 1946; 2nd as second; 10/6 as 10s. 6d.; Per cent. as %; 1' as 1 inch; B.P. 140/80 as Blood pressure, 140/80 mm. Hg.

12. Each paper should conclude with a summary (of about 200 words) intelligible apart from reference to the main text of the article.

13a. Galley proofs will be forwarded to the author in good time before publication date.

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14. *Reprints*: An order blank for reprints, together with a price list, will be sent to the author as soon as his article reaches page-proof stage.

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